

1.2
actionPerformed()

Test Case Number	Test Data with Expected Results	Conditions Covered	Branches covered
1	e.getSource() == null	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[6] ● e.getSource() == buttons[7] ● e.getSource() == buttons[10] ● e.getSource() == buttons[11] ● e.getSource() == buttons[12] ● e.getSource() == buttons[16] ● e.getSource() == buttons[17] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	Start -126-131-136 - 142 - 147 - 152 - 157 - 162 - 167 - 172 - 177 - 182 - 186 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end
2	decnumber = true clearscreen = false e.getSource() = buttons[17]	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] 	Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 162 - 167 - 172 - 177 - 182 - 186 - 187 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end

		<ul style="list-style-type: none"> ● clearscreen == True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[6] ● e.getSource() == buttons[7] ● e.getSource() == buttons[10] ● e.getSource() == buttons[11] ● e.getSource() == buttons[12] ● e.getSource() == buttons[16] ● e.getSource() == buttons[17] ● decnumber == false ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	
3	<p>decnumber = false clearscreen = false e.getSource() = buttons[17]</p> <p>Output: concatenate "." to input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14] && e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen == True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[6] ● e.getSource() == buttons[7] ● e.getSource() == buttons[10] ● e.getSource() == buttons[11] ● e.getSource() == buttons[12] ● e.getSource() == buttons[16] ● e.getSource() == buttons[17] ● decnumber == false ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 162 - 167 - 172 - 177 - 182 - 186 - 187 - 188 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>

		<ul style="list-style-type: none"> • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	
4	<p>e.getSource() = buttons[16] clearscreen = false</p> <p>Output: concatenate "0" to input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14] && e.getSource() != buttons[15] && e.getSource() != buttons[18] • clearscreen == True • e.getSource() == buttons[0] • e.getSource() == buttons[1] • e.getSource() == buttons[2] • e.getSource() == buttons[5] • e.getSource() == buttons[6] • e.getSource() == buttons[7] • e.getSource() == buttons[10] • e.getSource() == buttons[11] • e.getSource() == buttons[12] • e.getSource() == buttons[16] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	<p>Start - 126 - 136 - 142 - 147 - 152 - 157 - 162 - 167 - 172 - 177 - 182 - 183 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>
5	<p>e.getSource() = buttons[12] clearscreen = false</p> <p>Output: concatenate "9" to input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14] && e.getSource() != buttons[15] && e.getSource() != buttons[18] • clearscreen == True • e.getSource() == buttons[0] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 162 - 167 - 172 - 177 - 178 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>

		<ul style="list-style-type: none"> • e.getSource() == buttons[1] • e.getSource() == buttons[2] • e.getSource() == buttons[5] • e.getSource() == buttons[6] • e.getSource() == buttons[7] • e.getSource() == buttons[10] • e.getSource() == buttons[11] • e.getSource() == buttons[12] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	
6	<p>e.getSource() = buttons[11] clearscreen = false</p> <p>Output: concatenate "8" to input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14] && e.getSource() != buttons[15] && e.getSource() != buttons[18] • clearscreen == True • e.getSource() == buttons[0] • e.getSource() == buttons[1] • e.getSource() == buttons[2] • e.getSource() == buttons[5] • e.getSource() == buttons[6] • e.getSource() == buttons[7] • e.getSource() == buttons[10] • e.getSource() == buttons[11] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 162 - 167 - 172 - 173- 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>
7	<p>e.getSource() = buttons[10] clearscreen = false</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 162 - 167 - 168- 196 - 207 -</p>

	<p>Output: concatenate "7" to input</p>	<pre>e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18]</pre> <ul style="list-style-type: none"> ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[6] ● e.getSource() == buttons[7] ● e.getSource() == buttons[10] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>218 - 229 - 240 - 251 - 261 - 266 - end</p>
<p>8</p>	<pre>e.getSource() = buttons[7] clearscreen = false</pre> <p>Output: concatenate "6" to input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[6] ● e.getSource() == buttons[7] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 162 - 163 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>

<p>9</p>	<p>e.getSource() = buttons[6] clearscreen = false</p> <p>Output: concatenate "5" to input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[6] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 157 - 158 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>
<p>10</p>	<p>e.getSource() = buttons[5] clearscreen = false</p> <p>Output: concatenate "4" to input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[5] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 152 - 153 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>

<p>11</p>	<p>e.getSource() = buttons[2] clearscreen = false</p> <p>Output: concatenate "3" to input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[2] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>Start - 126 - 131 - 136 - 142 - 147 - 148 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>
<p>12</p>	<p>e.getSource() = buttons[1] clearscreen = false</p> <p>Output: concatenate "2" to input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● clearscreen ==True ● e.getSource() == buttons[0] ● e.getSource() == buttons[1] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● e.getSource() == buttons[14] ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>Start - 126 - 131 - 136 - 142 - 143 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>
<p>13</p>	<p>e.getSource() = buttons[0] clearscreen = true</p> <p>Output: concatenate "1" to</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && 	<p>Start - 126 - 131 -132 - 136 - 137 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - end</p>

	input	<p>e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18]</p> <ul style="list-style-type: none"> • clearscreen ==True • e.getSource() == buttons[0] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	
14	<p>e.getSource() = buttons[3] doubleclick=false</p> <p>Output: oper is set to addition continue to process clear variable to store new input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	Start - 126 - 196 - 201 - 202 - 203 - 261 - 266 - end
15	<p>e.getSource() = buttons[3] doubleclick=true</p> <p>Output: oper is set to addition clear variable to store new input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	Start - 126 - 196 - 201 - 203 - 261 - 266 - end
16	<p>e.getSource() = buttons[15] Output: clear screen</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && 	Start - 126 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 262 - 266 - end

		<p>e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18]</p> <ul style="list-style-type: none"> • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	
17	<p>e.getSource() = buttons[18] doubleclick=false</p> <p>Output: continue to process numbers Input = answer</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] • doubleclick == false 	<p>Start - 126 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - 270 - 271 - 272 - end</p>
18	<p>e.getSource() = buttons[18] doubleclick=true</p> <p>Output: Input = answer</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] 	<p>Start - 126 - 196 - 207 - 218 - 229 - 240 - 251 - 261 - 266 - 270 -272 - end</p>

		<ul style="list-style-type: none"> • e.getSource() == buttons[13] • e.getSource() == buttons[14] • e.getSource() == buttons[15] • e.getSource() == buttons[18] • doubleclick == false 	
19	<p>e.getSource() = buttons[14] Doubleclick = false</p> <p>Output: Operator = square root Continue to process Clear var to store new input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	<p>Start - 126 - 196 - 207- 218 - 229 - 240 - 251 - 255 256 - 257 - 261 - 266 - end</p>
20	<p>e.getSource() = buttons[14] Doubleclick = true</p> <p>Output: Operator = square root Clear var to store new input</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • e.getSource() == buttons[13] • e.getSource() == buttons[14] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	<p>Start - 126 - 196 - 207- 218 - 229 - 240 - 251 - 255 - 257 - 261 - 266 - end</p>
21	<p>e.getSource() = buttons[13] Doubleclick = false</p>	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && 	<p>Start - 126 - 196 - 207- 218 - 229 - 240 - 245 - 246 - 247 - 261 - 266 - end</p>

	<p>Output: Operator = exponential Continue to process Clear var to store new input</p>	<p>e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18]</p> <ul style="list-style-type: none"> ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● doubleclick == false ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	
22	<p>e.getSource() = buttons[13] Doubleclick = true</p> <p>Output: Operator = exponential Clear var to store new input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● e.getSource() == buttons[13] ● doubleclick == false ● e.getSource() == buttons[15] ● e.getSource() == buttons[18] 	<p>Start - 126 - 196 - 207- 218 - 229 - 240 - 245 - 247 - 261 - 266 - end</p>
23	<p>e.getSource() = buttons[9] Doubleclick = false</p> <p>Output: Operator = divide Continue to process Clear var to store new input</p>	<ul style="list-style-type: none"> ● e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] ● e.getSource() == buttons[3] ● e.getSource() == buttons[4] ● e.getSource() == buttons[8] ● e.getSource() == buttons[9] ● doubleclick == false 	<p>Start - 126 - 196 - 207- 218 - 229 - 234- 235- 236- 261 - 266 - end</p>

		<ul style="list-style-type: none"> • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	
24	e.getSource() = buttons[9] Doubleclick = true Output: Operator = divide Clear var to store new input	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • e.getSource() == buttons[9] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	Start - 126 - 196 - 207- 218 - 229 - 234 - 236- 261 - 266 - end
25	e.getSource() = buttons[8] Doubleclick = false Output: Operator = multiplication Continue to process Clear var to store new input	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • e.getSource() == buttons[8] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	Start - 126 - 196 - 207- 218 - 223 - 224 - 225 - 261 - 266 - end
26	e.getSource() = buttons[8] Doubleclick = true Output: Operator = multiplication Clear var to store new input	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] 	Start - 126 - 196 - 207- 218 - 223 - 225 - 261 - 266 - end

		<ul style="list-style-type: none"> • e.getSource() == buttons[8] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	
27	e.getSource() = buttons[4] Doubleclick = false Output: Operator = subtraction Continue to process Clear var to store new input	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	Start - 126 - 196 - 207- 212 - 213 - 214- 261 - 266 - end
28	e.getSource() = buttons[4] Doubleclick = true Output: Operator = subtraction Clear var to store new input	<ul style="list-style-type: none"> • e.getSource() != buttons[3] && e.getSource() != buttons[4] && e.getSource() != buttons[8] && e.getSource() != buttons[9] && e.getSource() != buttons[13] && e.getSource() != buttons[14]&& e.getSource() != buttons[15] && e.getSource() != buttons[18] • e.getSource() == buttons[3] • e.getSource() == buttons[4] • doubleclick == false • e.getSource() == buttons[15] • e.getSource() == buttons[18] 	Start - 126 - 196 - 207- 212 - 214- 261 - 266 - end

processNumbers()

Test Case Number	Test Data with Expected Results	Conditions Covered	Branches covered
1	No output firstpress=False morenums=True equals=False	firstpress==True (284) morenums==False(306) morenums==True(323) equals==True(325)	Start-284-306-323-325 -336-end
2	No output	firstpress==True (284)	Start-284-306-323-325

	firstpress=False morenums=True equals=True	morenums==False(306) morenums==True(323) equals==True(325)	-327-336-end
3	No output firstpress=False morenums=False equals=False	firstpress==True (284) morenums==False(306) equals==True(313)	Start-284-306-313-316 -end
4	No output firstpress=False morenums=False equals=True	firstpress==True (284) morenums==False(306) equals==True(313)	Start-284-306-313-314 -end
5	No output firstpress=True equals=False oper!=SQRT	firstpress==True (284) equals==True(286) oper==SQRT(296)	Start-284-286-290-296 301-end
6	No output firstpress=True equals=True oper=SQRT	firstpress==True (284) equals==True(286) oper==SQRT(296)	Start-284-286-287-296 -297-301-end
Extra (Not possible because of conditions. Else if of more nums and !morenums guarantees one of the branches is evaluated true as boolean can't be false)	No output firstpress=False morenums=NULL equals=True	firstpress==True (284) morenums==False(306) morenums==True(323)	Start-284-306-323-end

calculate()

0 because num1 and num2 are both 0

Test Case Number	Test Data with Expected Results	Conditions Covered	Branches covered
1	0 (no operation)	No case	start-348-349-352-355- 358-361-364-end
2	0 (SQRT Operation)	SQRT	start-348-349-352-355- 358-361-364-365-end

3	1 (POW Operation)	POW	start-348-349-352-355-358-361-362-end
4	0 (DIVI Operation)	DIVI	start-348-349-352-355-358-359-end
5	0 (MULTI Operation)	MULTI	start-348-349-352-355-356-end
6	0 (SUB Operation)	SUB	start-348-349-352-353-end
7	0 (ADD Operation)	ADD	start-348-349-350-end

1.3

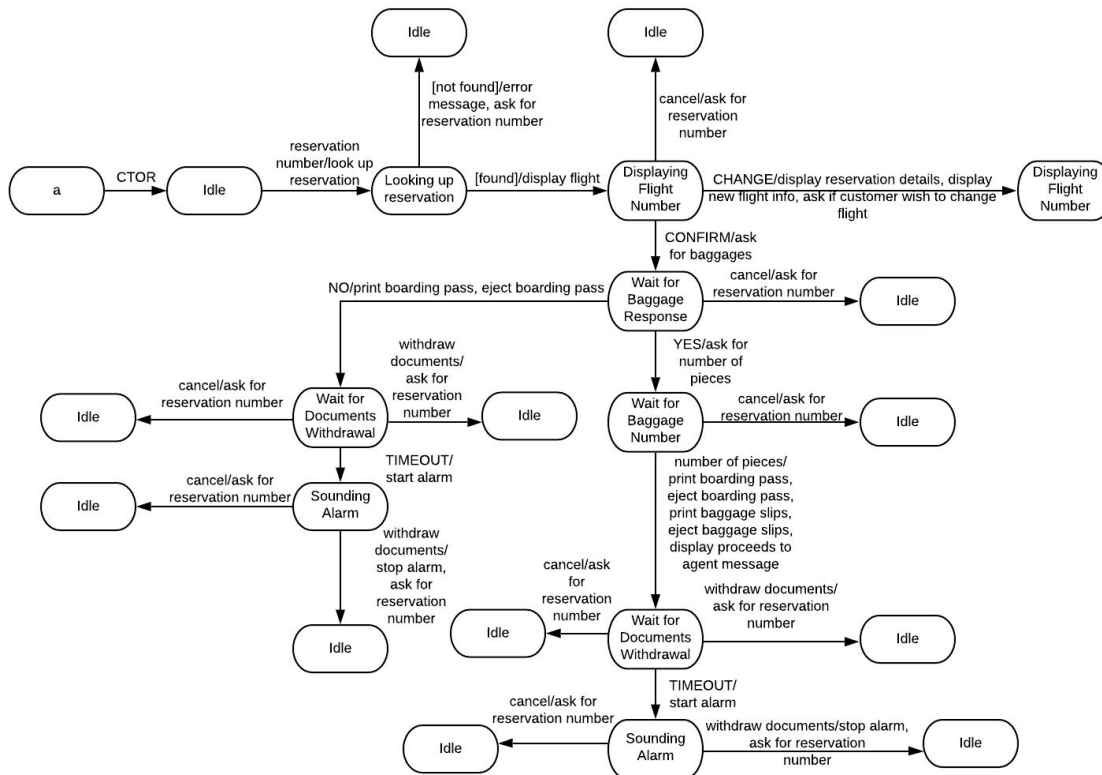
Refer to files ActionPerformedTest.java, ActionPerformedUnitTest.java, CalculateTest.java, CalculateUnitTest.java, ProcessNumbersTest, ProcessNumbersUnitTest.java. In the part 1 folder.

1.4

There is 100% branch/condition coverage for all the methods

Console Coverage				
calculator (26-Jun-2020 6:18:09 PM)				
Element	Coverage	Covered Ins...	Missed Instr...	Total Instruc...
src	97.4 %	1,120	30	1,150
calculator	97.4 %	1,120	30	1,150
Calculator.java	0.0 %	0	16	16
CalCFrame.java	98.8 %	1,120	14	1,134
CalCFrame	99.0 %	1,114	11	1,125
setClearscreen(boolean)	0.0 %	0	4	4
setResult(JTextField)	0.0 %	0	4	4
isClearscreen()	0.0 %	0	3	3
CalCFrame(String)	100.0 %	333	0	333
actionPerformed(ActionEvent)	100.0 %	552	0	552
calculate(int, double, double)	100.0 %	34	0	34
clearScreen()	100.0 %	28	0	28
clickCheck(String)	100.0 %	13	0	13
getResult()	100.0 %	3	0	3
processNumbers()	100.0 %	133	0	133
showAnswer(String)	100.0 %	18	0	18

2.1



2.2

CONFORMANCE TESTS

ID	Start State	Event	Condition	Reaction	New State
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1.1	-	constructor	-	-	Idle
1.2	Idle	reservation number	-	look up reservation	Looking up reservation
1.3	Looking up reservation	-	not found	Error message,	Idle

				ask for reservation number	
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2.1	-	constructor	-	-	Idle
2.2	Idle	reservation number	-	look up reservation	Looking up reservation
2.3	Looking up reservation	-	found	display flight	Displaying Flight Number
2.4	Displaying Flight Number	cancel	-	ask for reservation number	Idle

3.1	-	constructor	-	-	Idle
3.2	Idle	reservation number	-	look up reservation	Looking up reservation
3.3	Looking up reservation	-	found	display flight	Displaying Flight Number
3.4	Displaying Flight Number	CHANGE	-	display reservation details, display new flight info, ask if customer wish to change	Displaying Flight Number

4.1	-	constructor	-	-	Idle
4.2	Idle	reservation number	-	look up reservation	Looking up reservation
4.3	Looking up reservation	-	found	display flight	Displaying Flight Number

4.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
4.5	Wait for Baggage Response	cancel	-	ask for reservation number	Idle

5.1	-	constructor	-	-	Idle
5.2	Idle	reservation number	-	look up reservation	Looking up reservation
5.3	Looking up reservation	-	found	display flight	Displaying Flight Number
5.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
5.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
5.6	Wait for Baggage Number	cancel	-	ask for reservation number	Idle

6.1	-	constructor	-	-	Idle
6.2	Idle	reservation number	-	look up reservation	Looking up reservation
6.3	Looking up reservation	-	found	display flight	Displaying Flight Number
6.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
6.5	Wait for Baggage	YES	-	ask for number of	Wait for Baggage

	Response			pieces	Number
6.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
6.7	Wait for Documents Withdrawal	withdraw documents	-	ask for reservation number	Idle

7.1	-	constructor	-	-	Idle
7.2	Idle	reservation number	-	look up reservation	Looking up reservation
7.3	Looking up reservation	-	found	display flight	Displaying Flight Number
7.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
7.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
7.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal

7.7	Wait for Documents Withdrawal	cancel	-	ask for reservation number	Idle
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8.1	-	constructor	-	-	Idle
8.2	Idle	reservation number	-	look up reservation	Looking up reservation
8.3	Looking up reservation	-	found	display flight	Displaying Flight Number
8.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
8.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
8.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
8.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
8.8	Sounding Alarm	cancel	-	ask for reservation number	Idle

9.1	-	constructor	-	-	Idle
9.2	Idle	reservation number	-	look up reservation	Looking up reservation

9.3	Looking up reservation	-	found	display flight	Displaying Flight Number
9.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
9.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
9.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
9.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
9.8	Sounding Alarm	withdraw documents	-	stop alarm, ask for reservation number	Idle

10.1	-	constructor	-	-	Idle
10.2	Idle	reservation number	-	look up reservation	Looking up reservation
10.3	Looking up reservation	-	found	display flight	Displaying Flight Number
10.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response

10.5	Wait for Baggage Response	NO	-	print boarding pass, eject boarding pass	Wait for Documents Withdrawal
10.6	Wait for Documents Withdrawal	cancel	-	ask for reservation number	Idle

11.1	-	constructor	-	-	Idle
11.2	Idle	reservation number	-	look up reservation	Looking up reservation
11.3	Looking up reservation	-	found	display flight	Displaying Flight Number
11.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
11.5	Wait for Baggage Response	NO	-	print boarding pass, eject boarding pass	Wait for Documents Withdrawal
11.6	Wait for Documents Withdrawal	withdraw documents	-	ask for reservation number	Idle

12.1	-	constructor	-	-	Idle
12.2	Idle	reservation number	-	look up reservation	Looking up reservation
12.3	Looking up reservation	-	found	display flight	Displaying Flight Number
12.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response

12.5	Wait for Baggage Response	NO	-	print boarding pass, eject boarding pass	Wait for Documents Withdrawal
12.6	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
12.7	Sounding Alarm	cancel	-	ask for reservation number	Idle

13.1	-	constructor	-	-	Idle
13.2	Idle	reservation number	-	look up reservation	Looking up reservation
13.3	Looking up reservation	-	found	display flight	Displaying Flight Number
13.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
13.5	Wait for Baggage Response	NO	-	print boarding pass, eject boarding pass	Wait for Documents Withdrawal
13.6	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
13.7	Sounding Alarm	withdraw documents	-	stop alarm, ask for reservation number	Idle

SNEAK PATH TESTS

ID	Start State	Event	Condition	Reaction	New State
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1.1	-	constructor	-	-	Idle
1.2	Idle	NO	-	Error message, Illegal even	Idle

2.1	-	constructor	-	-	Idle
2.2	Idle	YES	-	Error message, Illegal even	Idle

3.1	-	constructor	-	-	Idle
3.2	Idle	cancel	-	Error message, Illegal even	Idle

4.1	-	constructor	-	-	Idle
4.2	Idle	TIMEOUT	-	Error message, Illegal even	Idle

5.1	-	constructor	-	-	Idle
5.2	Idle	CONFIRM	-	Error message, Illegal even	Idle

6.1	-	constructor	-	-	Idle
6.2	Idle	number of pieces	-	Error message, Illegal even	Idle

7.1	-	constructor	-	-	Idle
7.2	Idle	Withdraw documents	-	Error message, Illegal even	Idle

8.1	-	constructor	-	-	Idle
8.2	Idle	found	-	Error message, Illegal even	Idle

9.1	-	constructor	-	-	Idle
9.2	Idle	not found	-	Error message, Illegal even	Idle

10.1	-	constructor	-	-	Idle
10.2	Idle	CHANGE	-	Error message, Illegal even	Idle

11.1	-	constructor	-	-	Idle
11.2	Idle	reservation number	-	look up reservation	Looking up reservation
11.3	Looking up reservation	NO	-	Error message, Illegal even	Looking up reservation

12.1	-	constructor	-	-	Idle
12.2	Idle	reservation	-	look up	Looking up

		number		reservation	reservation
12.3	Looking up reservation	YES	-	Error message, Illegal even	Looking up reservation

13.1	-	constructor	-	-	Idle
13.2	Idle	reservation number	-	look up reservation	Looking up reservation
13.3	Looking up reservation	CHANGE	-	Error message, Illegal even	Looking up reservation

14.1	-	constructor	-	-	Idle
14.2	Idle	reservation number	-	look up reservation	Looking up reservation
14.3	Looking up reservation	cancel	-	Error message, Illegal even	Looking up reservation

15.1	-	constructor	-	-	Idle
15.2	Idle	reservation number	-	look up reservation	Looking up reservation
15.3	Looking up reservation	TIMEOUT	-	Error message, Illegal even	Looking up reservation

16.1	-	constructor	-	-	Idle
16.2	Idle	reservation number	-	look up reservation	Looking up reservation
16.3	Looking up reservation	CONFIRM	-	Error message,	Looking up reservation

				Illegal even	
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17.1	-	constructor	-	-	Idle
17.2	Idle	reservation number	-	look up reservation	Looking up reservation
17.3	Looking up reservation	reservation number	-	Error message, Illegal even	Looking up reservation

18.1	-	constructor	-	-	Idle
18.2	Idle	reservation number	-	look up reservation	Looking up reservation
18.3	Looking up reservation	number of pieces	-	Error message, Illegal even	Looking up reservation

19.1	-	constructor	-	-	Idle
19.2	Idle	reservation number	-	look up reservation	Looking up reservation
19.3	Looking up reservation	-	found	display flight	Displaying Flight Number
19.4	Displaying Flight Number	NO	-	Error message, Illegal even	Displaying Flight Number

20.1	-	constructor	-	-	Idle
20.2	Idle	reservation number	-	look up reservation	Looking up reservation
20.3	Looking up	-	found	display flight	Displaying

	reservation				Flight Number
20.4	Displaying Flight Number	YES	-	Error message, Illegal even	Displaying Flight Number

21.1	-	constructor	-	-	Idle
21.2	Idle	reservation number	-	look up reservation	Looking up reservation
21.3	Looking up reservation	-	found	display flight	Displaying Flight Number
21.4	Displaying Flight Number	found	-	Error message, Illegal even	Displaying Flight Number

22.1	-	constructor	-	-	Idle
22.2	Idle	reservation number	-	look up reservation	Looking up reservation
22.3	Looking up reservation	-	found	display flight	Displaying Flight Number
22.4	Displaying Flight Number	Withdraw documents	-	Error message, Illegal even	Displaying Flight Number

23.1	-	constructor	-	-	Idle
23.2	Idle	reservation number	-	look up reservation	Looking up reservation
23.3	Looking up reservation	-	found	display flight	Displaying Flight Number

23.4	Displaying Flight Number	TIMEOUT	-	Error message, Illegal even	Displaying Flight Number
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24.1	-	constructor	-	-	Idle
24.2	Idle	reservation number	-	look up reservation	Looking up reservation
24.3	Looking up reservation	-	found	display flight	Displaying Flight Number
24.4	Displaying Flight Number	not found	-	Error message, Illegal even	Displaying Flight Number

25.1	-	constructor	-	-	Idle
25.2	Idle	reservation number	-	look up reservation	Looking up reservation
25.3	Looking up reservation	-	found	display flight	Displaying Flight Number
25.4	Displaying Flight Number	reservation number	-	Error message, Illegal even	Displaying Flight Number

26.1	-	constructor	-	-	Idle
26.2	Idle	reservation number	-	look up reservation	Looking up reservation
26.3	Looking up reservation	-	found	display flight	Displaying Flight Number
26.4	Displaying Flight Number	number of pieces	-	Error message, Illegal even	Displaying Flight Number

27.1	-	constructor	-	-	Idle
27.2	Idle	reservation number	-	look up reservation	Looking up reservation
27.3	Looking up reservation	-	found	display flight	Displaying Flight Number
27.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
27.5	Wait for Baggage Response	found	-	Error message, Illegal even	Wait for Baggage Response

28.1	-	constructor	-	-	Idle
28.2	Idle	reservation number	-	look up reservation	Looking up reservation
28.3	Looking up reservation	-	found	display flight	Displaying Flight Number
28.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
28.5	Wait for Baggage Response	Withdraw documents	-	Error message, Illegal even	Wait for Baggage Response

29.1	-	constructor	-	-	Idle
29.2	Idle	reservation number	-	look up reservation	Looking up reservation
29.3	Looking up reservation	-	found	display flight	Displaying Flight Number

29.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
29.5	Wait for Baggage Response	TIMEOUT	-	Error message, Illegal even	Wait for Baggage Response

30.1	-	constructor	-	-	Idle
30.2	Idle	reservation number	-	look up reservation	Looking up reservation
30.3	Looking up reservation	-	found	display flight	Displaying Flight Number
30.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
30.5	Wait for Baggage Response	not found	-	Error message, Illegal even	Wait for Baggage Response

31.1	-	constructor	-	-	Idle
31.2	Idle	reservation number	-	look up reservation	Looking up reservation
31.3	Looking up reservation	-	found	display flight	Displaying Flight Number
31.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
31.5	Wait for Baggage Response	reservation number	-	Error message, Illegal even	Wait for Baggage Response

32.1	-	constructor	-	-	Idle
32.2	Idle	reservation number	-	look up reservation	Looking up reservation
32.3	Looking up reservation	-	found	display flight	Displaying Flight Number
32.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
32.5	Wait for Baggage Response	number of pieces	-	Error message, Illegal even	Wait for Baggage Response

33.1	-	constructor	-	-	Idle
33.2	Idle	reservation number	-	look up reservation	Looking up reservation
33.3	Looking up reservation	-	found	display flight	Displaying Flight Number
33.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
33.5	Wait for Baggage Response	CHANGE	-	Error message, Illegal even	Wait for Baggage Response

34.1	-	constructor	-	-	Idle
34.2	Idle	reservation number	-	look up reservation	Looking up reservation
34.3	Looking up reservation	-	found	display flight	Displaying Flight Number
34.4	Displaying	CONFIRM	-	ask for	Wait for

	Flight Number			baggages	Baggage Response
34.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
34.6	Wait for Baggage Number	NO	-	Error message, Illegal even	Wait for Baggage Number

35.1	-	constructor	-	-	Idle
35.2	Idle	reservation number	-	look up reservation	Looking up reservation
35.3	Looking up reservation	-	found	display flight	Displaying Flight Number
35.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
35.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
35.6	Wait for Baggage Number	YES	-	Error message, Illegal even	Wait for Baggage Number

36.1	-	constructor	-	-	Idle
36.2	Idle	reservation number	-	look up reservation	Looking up reservation
36.3	Looking up reservation	-	found	display flight	Displaying Flight Number
36.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response

36.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
36.6	Wait for Baggage Number	TIMEOUT	-	Error message, Illegal even	Wait for Baggage Number

37.1	-	constructor	-	-	Idle
37.2	Idle	reservation number	-	look up reservation	Looking up reservation
37.3	Looking up reservation	-	found	display flight	Displaying Flight Number
37.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
37.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
37.6	Wait for Baggage Number	CONFIRM	-	Error message, Illegal even	Wait for Baggage Number

38.1	-	constructor	-	-	Idle
38.2	Idle	reservation number	-	look up reservation	Looking up reservation
38.3	Looking up reservation	-	found	display flight	Displaying Flight Number
38.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
38.5	Wait for Baggage	YES	-	ask for number of	Wait for Baggage

	Response			pieces	Number
38.6	Wait for Baggage Number	Withdraw documents	-	Error message, Illegal even	Wait for Baggage Number

39.1	-	constructor	-	-	Idle
39.2	Idle	reservation number	-	look up reservation	Looking up reservation
39.3	Looking up reservation	-	found	display flight	Displaying Flight Number
39.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
39.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
39.6	Wait for Baggage Number	found	-	Error message, Illegal even	Wait for Baggage Number

40.1	-	constructor	-	-	Idle
40.2	Idle	reservation number	-	look up reservation	Looking up reservation
40.3	Looking up reservation	-	found	display flight	Displaying Flight Number
40.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
40.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number

40.6	Wait for Baggage Number	not found	-	Error message, Illegal even	Wait for Baggage Number
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41.1	-	constructor	-	-	Idle
41.2	Idle	reservation number	-	look up reservation	Looking up reservation
41.3	Looking up reservation	-	found	display flight	Displaying Flight Number
41.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
41.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
41.6	Wait for Baggage Number	reservation number	-	Error message, Illegal even	Wait for Baggage Number

42.1	-	constructor	-	-	Idle
42.2	Idle	reservation number	-	look up reservation	Looking up reservation
42.3	Looking up reservation	-	found	display flight	Displaying Flight Number
42.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
42.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
42.6	Wait for Baggage	CHANGE	-	Error message,	Wait for Baggage

	Number			Illegal even	Number
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43.1	-	constructor	-	-	Idle
43.2	Idle	reservation number	-	look up reservation	Looking up reservation
43.3	Looking up reservation	-	found	display flight	Displaying Flight Number
43.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
43.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
43.6	Wait for Documents Withdrawal	NO	-	Error message, Illegal even	Wait for Documents Withdrawal

44.1	-	constructor	-	-	Idle
44.2	Idle	reservation number	-	look up reservation	Looking up reservation
44.3	Looking up reservation	-	found	display flight	Displaying Flight Number
44.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
44.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
44.6	Wait for Documents Withdrawal	YES	-	Error message, Illegal even	Wait for Documents Withdrawal

45.1	-	constructor	-	-	Idle
45.2	Idle	reservation number	-	look up reservation	Looking up reservation
45.3	Looking up reservation	-	found	display flight	Displaying Flight Number
45.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
45.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
45.6	Wait for Documents Withdrawal	CONFIRM	-	Error message, Illegal even	Wait for Documents Withdrawal

46.1	-	constructor	-	-	Idle
46.2	Idle	reservation number	-	look up reservation	Looking up reservation
46.3	Looking up reservation	-	found	display flight	Displaying Flight Number
46.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
46.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
46.6	Wait for Documents Withdrawal	found	-	Error message, Illegal even	Wait for Documents Withdrawal

47.1	-	constructor	-	-	Idle
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47.2	Idle	reservation number	-	look up reservation	Looking up reservation
47.3	Looking up reservation	-	found	display flight	Displaying Flight Number
47.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
47.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
47.6	Wait for Documents Withdrawal	not found	-	Error message, Illegal even	Wait for Documents Withdrawal

48.1	-	constructor	-	-	Idle
48.2	Idle	reservation number	-	look up reservation	Looking up reservation
48.3	Looking up reservation	-	found	display flight	Displaying Flight Number
48.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
48.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
48.6	Wait for Documents Withdrawal	reservation number	-	Error message, Illegal even	Wait for Documents Withdrawal

49.1	-	constructor	-	-	Idle
49.2	Idle	reservation number	-	look up reservation	Looking up reservation

49.3	Looking up reservation	-	found	display flight	Displaying Flight Number
49.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
49.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
49.6	Wait for Documents Withdrawal	CHANGE	-	Error message, Illegal even	Wait for Documents Withdrawal

50.1	-	constructor	-	-	Idle
50.2	Idle	reservation number	-	look up reservation	Looking up reservation
50.3	Looking up reservation	-	found	display flight	Displaying Flight Number
50.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
50.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
50.6	Wait for Documents Withdrawal	Number of pieces	-	Error message, Illegal even	Wait for Documents Withdrawal

51.1	-	constructor	-	-	Idle
51.2	Idle	reservation number	-	look up reservation	Looking up reservation
51.3	Looking up reservation	-	found	display flight	Displaying Flight

					Number
51.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
51.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
51.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
51.7	Sounding Alarm	NO	-	Error message, Illegal even	Sounding Alarm

52.1	-	constructor	-	-	Idle
52.2	Idle	reservation number	-	look up reservation	Looking up reservation
52.3	Looking up reservation	-	found	display flight	Displaying Flight Number
52.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
52.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
52.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
52.7	Sounding Alarm	YES	-	Error message, Illegal even	Sounding Alarm

53.1	-	constructor	-	-	Idle
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53.2	Idle	reservation number	-	look up reservation	Looking up reservation
53.3	Looking up reservation	-	found	display flight	Displaying Flight Number
53.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
53.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
53.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
53.7	Sounding Alarm	TIMEOUT	-	Error message, Illegal even	Sounding Alarm

54.1	-	constructor	-	-	Idle
54.2	Idle	reservation number	-	look up reservation	Looking up reservation
54.3	Looking up reservation	-	found	display flight	Displaying Flight Number
54.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
54.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
54.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
54.7	Sounding Alarm	CONFIRM	-	Error message,	Sounding Alarm

				Illegal even	
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55.1	-	constructor	-	-	Idle
55.2	Idle	reservation number	-	look up reservation	Looking up reservation
55.3	Looking up reservation	-	found	display flight	Displaying Flight Number
55.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
55.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
55.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
55.7	Sounding Alarm	Number of pieces	-	Error message, Illegal even	Sounding Alarm

56.1	-	constructor	-	-	Idle
56.2	Idle	reservation number	-	look up reservation	Looking up reservation
56.3	Looking up reservation	-	found	display flight	Displaying Flight Number
56.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
56.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal

56.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
56.7	Sounding Alarm	found	-	Error message, Illegal even	Sounding Alarm

57.1	-	constructor	-	-	Idle
57.2	Idle	reservation number	-	look up reservation	Looking up reservation
57.3	Looking up reservation	-	found	display flight	Displaying Flight Number
57.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
57.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
57.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
57.7	Sounding Alarm	not found	-	Error message, Illegal even	Sounding Alarm

58.1	-	constructor	-	-	Idle
58.2	Idle	reservation number	-	look up reservation	Looking up reservation
58.3	Looking up reservation	-	found	display flight	Displaying Flight Number
58.4	Displaying Flight	CONFIRM	-	ask for baggages	Wait for Baggage

	Number				Response
58.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
58.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
58.7	Sounding Alarm	CHANGE	-	Error message, Illegal even	Sounding Alarm

59.1	-	constructor	-	-	Idle
59.2	Idle	reservation number	-	look up reservation	Looking up reservation
59.3	Looking up reservation	-	found	display flight	Displaying Flight Number
59.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
59.5	Wait for Baggage Response	NO	-	ask for number of pieces	Wait for Documents Withdrawal
59.6	Wait for Documents Withdrawal	TIMEOUT	-	Start alarm	Sounding Alarm
59.7	Sounding Alarm	reservation number	-	Error message, Illegal even	Sounding Alarm

60.1	-	constructor	-	-	Idle
60.2	Idle	reservation number	-	look up reservation	Looking up reservation

60.3	Looking up reservation	-	found	display flight	Displaying Flight Number
60.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
60.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
60.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
60.7	Wait for Documents Withdrawal	NO	-	Error message, Illegal even	Wait for Documents Withdrawal

61.1	-	constructor	-	-	Idle
61.2	Idle	reservation number	-	look up reservation	Looking up reservation
61.3	Looking up reservation	-	found	display flight	Displaying Flight Number
61.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
61.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
61.6	Wait for	number of	-	print boarding	Wait for

	Baggage Number	pieces		pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Documents Withdrawal
61.7	Wait for Documents Withdrawal	YES	-	Error message, Illegal even	Wait for Documents Withdrawal

62.1	-	constructor	-	-	Idle
62.2	Idle	reservation number	-	look up reservation	Looking up reservation
62.3	Looking up reservation	-	found	display flight	Displaying Flight Number
62.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
62.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
62.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
62.7	Wait for Documents	CONFIRM	-	Error message,	Wait for Documents

	Withdrawal			Illegal even	Withdrawal
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63.1	-	constructor	-	-	Idle
63.2	Idle	reservation number	-	look up reservation	Looking up reservation
63.3	Looking up reservation	-	found	display flight	Displaying Flight Number
63.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
63.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
63.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
63.7	Wait for Documents Withdrawal	number of pieces	-	Error message, Illegal even	Wait for Documents Withdrawal

64.1	-	constructor	-	-	Idle
64.2	Idle	reservation number	-	look up reservation	Looking up reservation
64.3	Looking up reservation	-	found	display flight	Displaying Flight Number

64.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
64.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
64.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
64.7	Wait for Documents Withdrawal	found	-	Error message, Illegal even	Wait for Documents Withdrawal

65.1	-	constructor	-	-	Idle
65.2	Idle	reservation number	-	look up reservation	Looking up reservation
65.3	Looking up reservation	-	found	display flight	Displaying Flight Number
65.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
65.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
65.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage	Wait for Documents Withdrawal

				slips, eject baggage slips, display proceeds to agent message	
65.7	Wait for Documents Withdrawal	not found	-	Error message, Illegal even	Wait for Documents Withdrawal

66.1	-	constructor	-	-	Idle
66.2	Idle	reservation number	-	look up reservation	Looking up reservation
66.3	Looking up reservation	-	found	display flight	Displaying Flight Number
66.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
66.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
66.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
66.7	Wait for Documents Withdrawal	CHANGE	-	Error message, Illegal even	Wait for Documents Withdrawal

67.1	-	constructor	-	-	Idle
67.2	Idle	reservation number	-	look up reservation	Looking up reservation
67.3	Looking up reservation	-	found	display flight	Displaying Flight Number
67.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
67.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
67.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
67.7	Wait for Documents Withdrawal	reservation number	-	Error message, Illegal even	Wait for Documents Withdrawal

68.1	-	constructor	-	-	Idle
68.2	Idle	reservation number	-	look up reservation	Looking up reservation
68.3	Looking up reservation	-	found	display flight	Displaying Flight Number
68.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response

68.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
68.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
68.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
68.8	Sounding Alarm	NO	-	Error message, Illegal even	Sounding Alarm

69.1	-	constructor	-	-	Idle
69.2	Idle	reservation number	-	look up reservation	Looking up reservation
69.3	Looking up reservation	-	found	display flight	Displaying Flight Number
69.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
69.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
69.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage	Wait for Documents Withdrawal

				slips, eject baggage slips, display proceeds to agent message	
69.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
69.8	Sounding Alarm	YES	-	Error message, Illegal even	Sounding Alarm

70.1	-	constructor	-	-	Idle
70.2	Idle	reservation number	-	look up reservation	Looking up reservation
70.3	Looking up reservation	-	found	display flight	Displaying Flight Number
70.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
70.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
70.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
70.7	Wait for Documents	TIMEOUT	-	start alarm	Sounding Alarm

	Withdrawal				
70.8	Sounding Alarm	CONFIRM	-	Error message, Illegal even	Sounding Alarm

71.1	-	constructor	-	-	Idle
71.2	Idle	reservation number	-	look up reservation	Looking up reservation
71.3	Looking up reservation	-	found	display flight	Displaying Flight Number
71.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
71.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
71.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
71.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
71.8	Sounding Alarm	number of pieces	-	Error message, Illegal even	Sounding Alarm

72.1	-	constructor	-	-	Idle
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72.2	Idle	reservation number	-	look up reservation	Looking up reservation
72.3	Looking up reservation	-	found	display flight	Displaying Flight Number
72.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
72.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
72.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
72.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
72.8	Sounding Alarm	found	-	Error message, Illegal even	Sounding Alarm

73.1	-	constructor	-	-	Idle
73.2	Idle	reservation number	-	look up reservation	Looking up reservation
73.3	Looking up reservation	-	found	display flight	Displaying Flight Number
73.4	Displaying Flight	CONFIRM	-	ask for baggages	Wait for Baggage

	Number				Response
73.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
73.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
73.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
73.8	Sounding Alarm	not found	-	Error message, Illegal even	Sounding Alarm

74.1	-	constructor	-	-	Idle
74.2	Idle	reservation number	-	look up reservation	Looking up reservation
74.3	Looking up reservation	-	found	display flight	Displaying Flight Number
74.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
74.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
74.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding	Wait for Documents Withdrawal

				pass, print baggage slips, eject baggage slips, display proceeds to agent message	
74.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
74.8	Sounding Alarm	TIMEOUT	-	Error message, Illegal even	Sounding Alarm

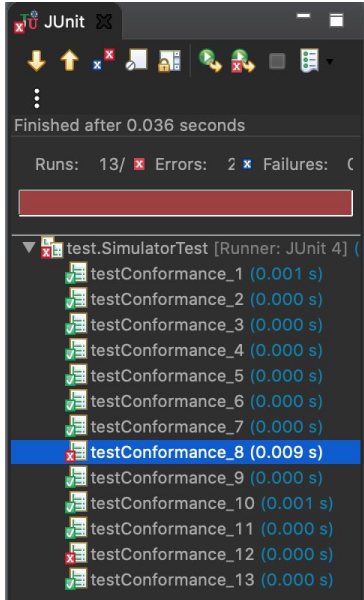
75.1	-	constructor	-	-	Idle
75.2	Idle	reservation number	-	look up reservation	Looking up reservation
75.3	Looking up reservation	-	found	display flight	Displaying Flight Number
75.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
75.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
75.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal

75.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
75.8	Sounding Alarm	CHANGE	-	Error message, Illegal even	Sounding Alarm

76.1	-	constructor	-	-	Idle
76.2	Idle	reservation number	-	look up reservation	Looking up reservation
76.3	Looking up reservation	-	found	display flight	Displaying Flight Number
76.4	Displaying Flight Number	CONFIRM	-	ask for baggages	Wait for Baggage Response
76.5	Wait for Baggage Response	YES	-	ask for number of pieces	Wait for Baggage Number
76.6	Wait for Baggage Number	number of pieces	-	print boarding pass, eject boarding pass, print baggage slips, eject baggage slips, display proceeds to agent message	Wait for Documents Withdrawal
76.7	Wait for Documents Withdrawal	TIMEOUT	-	start alarm	Sounding Alarm
76.8	Sounding Alarm	reservation number	-	Error message, Illegal even	Sounding Alarm

Conformance Test #	Result
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass
7	Pass
8	Failed
9	Pass
10	Pass
11	Pass
12	Failed
13	Pass

Tests 8 and 10 fail when the cancel action is applied to the sounding alarm state. According to the state diagram in the question, if the cancel action is applied to the sounding alarm state, the state should go back to Idle. The tests fail because the cancel method does not consider the sounding alarm state in its if statement. It instead throws an exception causing both tests to fail.



Sneak Path Test	Result
All Tests	All Tests Passed

