

Question 1:

- 1) classes: a description of attributes and operations of all objects of a particular kind
Objects: an Instance of class
- 2) Constructor
- 3) It contains a method that has no body
- 4) Import Java util ArrayList;
Import Java util Random;
- 5) JFrame, JButton, JPanel, Jscroll, JLabel, Jscroll pane

Question 2:

a) import Java util Random

Daniyal Tariq at 2017-12-15 3:26 PM

//define instance variables

b) Public static Final int MAX= 10;

Private String ar[];

Private int currMax;

Private int count;

c) //constructor for objects in class player

Public Player(){

Random r = new Random();

currMax = r.nextInt(Max) +1;

//italize Array

ar = newString[currMax];

Count = 0;

d)//Adds a player(String) to the end of Array

//@param Player1 the string to add to the array

//@return true if successful false otherwise

Public boolean addPlayer(String Player1){

If (count==currMax){

Return false;

}

ar[count]=player1;

Count++;

```

    Return true;
}
e)
For(int l = count, l > 0, l--){
    ar[l]=ar[l-1];
}
ar[0]=Player1;

```

f)*/finding specific player
@param p to add to array
@return true if succesfull ,false otherwise*/

g)

```

Public boolean findspecificPlayer(String p){
    For( int l = 0; l < count ; l++){
        If(ar[l].equals(P)) {found player
            Return true;
        }
    }
    Return false;// searched array
}
Public void printAllPlayers(){
    For(String X : ar){for each loop
        System.out.println(x + " ");
    }
}

```

Question 3)

```

Public class Bus extends vehicle{

    Private int Price;

    Public bus (int Price,String name ){
        Super(name,manufacturer,stock);
        This.Price = Price;
    }

    Public String getName(){
        Return super.getName()
    }
}

```

```
Public int getStock(){  
    Return super.getStock();  
}
```

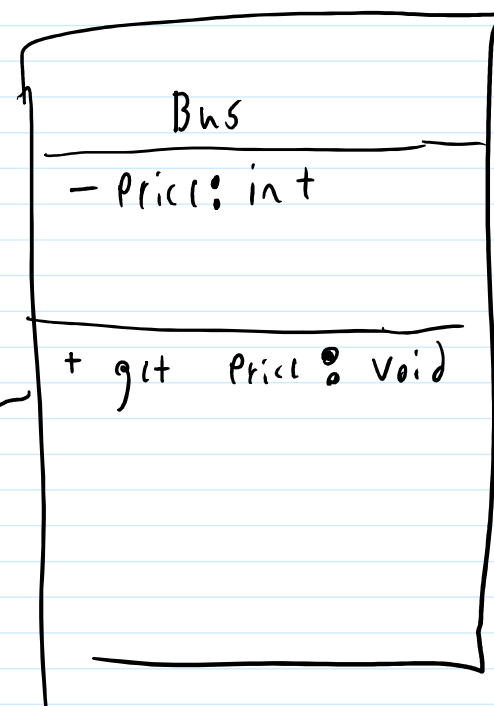
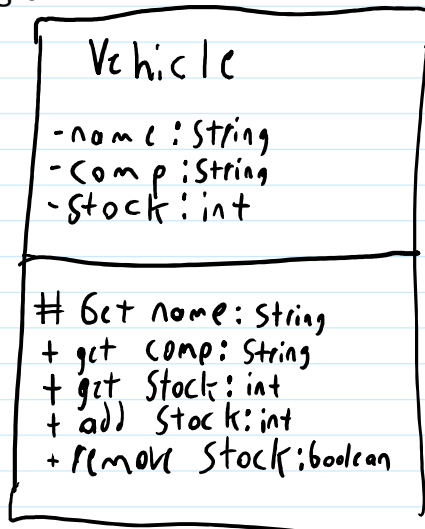
```
Public void addStock(){  
    Super().addStock;  
}
```

```
Public boolean removeStock(){  
    Return super().removeStock;  
}
```

```
Public int getPrice();  
    Return Price;  
}
```

UML diagram

- Private
+ Public



● Look at UML guide on
Course Website

Look at UML guide on course website

```
// test cases for the test class;
```

```
Bus bus1 = new Bus(_____);
```

```
assertFalse( bus1.getName(), null );
```

```
assertEquals(bus1.getStock , 2);
```

```
assertEquals(bus1.getPrice, 3500);
```

```
assertTrue(bus1.getComp() == "TATA");
```

```
assertFalse (bus1.getName() == "Civic");  
    //.equals("Civic")
```

Question 6); GUI

```
//counter controller
```

```
private JButton upButton;// Increment button
```

```
private JButton reset button;
```

```
private JButton down button;
```

```
private CounterModel;
```

b)

```
Jpanel buttonPanel = new Jpanel(); // buttons are now created  
buttonPanel.setLayout((new GridLayout(1,5));
```

```
Upbutton = new JButton("up");  
buttonPanel.add(upButton);
```

```
resetButton = new JButton("reset");
downButton = new JButton("down");
ButtonPanel.add(resetButton);
ButtonPanel.add(downButton);

contentPane.add(buttonPanel,borderLayout,CENTER);
```

```
Public void registerListener(){

    UPButton.addActionListner(this);
    resetButton.addActionListener(this);
    downButton.addActionListener(this);

}
```

```
Public Void actionPerformed(ActionEvent e){
    JButton button = (JButton) e.getSource();
    If ( button == downButton){
        modelDecrement();
    }
    Else if( button == upButton){
        Model.increment();
    }
    Else if ( button == reset){
        Model.Reset();
    }
}
If (model.value() == 0){
    downButton.setEnabled(false);
}
Else{
    downButton setEnabled(true);
}
}
//end of method
```

