

MIDTERM TEST

27.8/30

CST8221 – Java Application Programming

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Please print clearly

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TEST INSTRUCTIONS:

The Midterm test consists of 40 questions. The questions are a mix of multiple choice, yes/no, and true-false. At the end of test there are 3 bonus questions. You may replace with the bonus question any one of the preceding compulsory questions.

Every properly answered question is worth **0.75** marks. This part of the test counts for 30% of your final grade.

Read each question carefully before you answer. You have 50 minutes to complete the test and 5 minutes to submit it. 5 minutes before the hour I will leave the class. Late tests will not be accepted.

The Midterm Test is a clean desk test. Work at a steady pace, and you should have ample time to finish. When answering the true-false and the multiple-choice questions you must encircle the letter in front of the appropriate option. Some questions are a combination between fill-in-the-blanks and multiple-choice questions. Answering those questions you must encircle the letter in front of the appropriate option and fill the blanks with the appropriate word(s). If you are uncertain about your answer, try to explain your answer in writing. It could bring you some partial marks.

Please do not talk to your neighbors. Do not look at your neighbor papers: all answers are wrong there. If you do not understand something in the test, do not hesitate to ask the teacher. Raise your hand if you have questions. And finally, please turn you mobile devices (cell phone, phablets, tablets, and whatever) off.

Sign every page of the test. Make sure that your name is on your paper before you turn it in.

Good luck, and do not forget that:

"THE PROMISE OF THE FUTURE LIES NOT IN TECHNOLOGY BUT IN YOU and JAVA!"

1. An inner class method does not have access to the fields of the enclosing class.
 - a. True
 - b. False
2. An anonymous inner class can have a constructor.
 - a. True
 - b. False
3. A JPanel cannot contain another JPanel.
 - a. True
 - b. False
4. Can a JPanel contain JFrame?
 - a. Yes
 - b. No ✓
5. The FlowLayout manager is the default layout manager of JFrame.
 - a. True
 - b. False
6. In Swing you cannot change the container's default layout manager to some other layout manager.
 - a. True
 - b. False
7. The user cannot be prevented from typing text in a JTextField.
 - a. True
 - b. False
8. Can you enter more than one line in a JTextField?
 - a. Yes
 - b. No
9. The standard editing operations Ctrl-C, Ctrl-V, and Ctrl-X cannot be used when entering text from the keyboard in JTextField or JTextArea.
 - a. True
 - b. False
10. Not all dialogs created by JOptionPane are modal.
 - a. True
 - b. False
11. Input Dialogs in Swing return a reference of type Object referring to a String object.
 - a. True
 - b. False

*return [a String of single input
an Object reflecting all selections of its multiple input*
12. You do not need a parent frame in order to create a dialog in Swing.
 - a. True
 - b. False ✓

Yes
13. You cannot change the appearance of a progress bar in Swing.
 - a. True
 - b. False

14. You cannot reuse a progress monitor in Swing.
 a. True b. False
15. Can you filter the type of the files displayed in the file chooser dialog box?
 a. Yes b. No
16. Can you select multiple files in the file chooser dialog box?
 a. Yes b. No
17. Which of the following is not a GUI component?
 a. Lambda expression.
b. Menu item.
c. Combo box.
d. Button.
18. Which one of the following components contains menus?
 a. Menu bar.
b. Title bar.
c. Menu button.
d. Combo box.
19. Which of the following is not true for a JTextField?
 a. Displays a list of fields.
b. Can be used to display editable text.
c. Enables users to enter data from the keyboard.
d. Can be used to display uneditable text.
20. Which pair of words does not complete the sentence below correctly?

A Container is a JPanel.

- a. Container, JPanel.
b. JComponent, Container.
c. Container, Component.
d. Component, Object.

21. Which one of the following layout managers has five distinctive areas?
- a. FlowLayout
 - b. BorderLayout
 - c. GridLayout
 - d. BorderLayout
22. Which region is used by default when a Component is added to a BorderLayout?
- a. NORTH
 - b. SOUTH
 - c. WEST
 - d. CENTER
23. When components are added to a container with a GridLayout, the component:
- a. fills the next spot in the row, continuing in the first position of the next row if the current row is full.
 - b. fills the next spot in the column, continuing in the first position of the next column if the column is full.
 - c. fills in row x, column y if x and y are two integers passed to the Container method add.
 - d. fills in a random empty position in the grid.
24. How many components can be added to the center of BorderLayout?
- a. five
 - b. two
 - c. three
 - d. one
25. Which of the following is not true?
- a. Both JRadioButton and JCheckBox must always be part of a button group.
 - b. Both JRadioButton and JCheckBox are state buttons.
 - c. Both JRadioButton and JCheckBox are type of a button.
 - d. Both JRadioButton and JCheckBox are subclasses of JToggleButton.
26. Which of the following is not true of a JLabel?
- a. A JLabel can display text and a button.
 - b. A JLabel can display text and an image.
 - c. A JLabel is a subclass of JComponent.
 - d. The JLabel text can be changed at run-time.

27. Which of the following most completely describes the steps for setting up an event handler for a GUI component?
- a. Create a class called JEventHandler and make it a field of the JFrame class.
 - b. Instantiate an appropriate event-listener interface and register it as an event handler.
 - c. Create a class that represents an event handler by implementing an appropriate event-listener interface.
 - d. Create a class that represents an event handler by implementing an appropriate event-listener interface and register an object of that class as an event handler.
28. Forgetting to register an event-handler object for a particular GUI component's event type causes
- a. events of that type to be ignored. ✓
 - b. all of the GUI component's events to be ignored.
 - c. a compilation error.
 - d. None of the above.
29. In the MVC design pattern how the data is represented is determined by
- a. the Model.
 - b. the View.
 - c. the Controller.
 - d. the Observable.
30. In the Observer/Observable design pattern the Observer object is responsible to notify all Observer objects for a change in its state.
- a. True
 - b. False ✓
31. In JavaFX the top-level container is called Scene.
- a. True
 - b. False
32. In JavaFX all controls are direct subclasses of the Parent class.
- a. True ✓
 - b. False
33. Is the main() method required to launch a JavaFX application?
- a. Yes
 - b. No
34. Does the JavaFX API provide predefined layout managers similar to the Swing layout managers?
- a. Yes
 - b. No

35. Does JavaFX currently provide an API for creating standard dialogs?
 a. Yes b. No
36. Does the JavaFX API provide a control similar to JTextArea?
 a. Yes b. No
37. Does the JavaFX API provide a ProgressMonitor control?
a. Yes b. No
38. Does the JavaFX API provide a FileChooser control?
 a. Yes b. No
39. In JavaFX there is not a dedicated place for the menu bar in the structure of the stage.
 a. True b. False
40. JavaFX and Swing are using different event models for handling events.
a. True b. False

BONUS QUESTIONS:

- #1. In Java 8 only single abstract method interfaces can be used as a target type for lambda expression implementation.
a. True ✓ b. False
- #2. A GUI event object always contains information about the
 a. event source.
b. event container.
c. event raiser.
d. event handler.
- #3. What is Java? +2
a. an island.
b. a coffee bean.
c. a programming language.
 d. a technology.
e. a sea