

Software Construction & Development (SE3001)

MID 1 Exam

Total Time (Hours):

Total Marks:

Total Questions:

Date: Sep 23rd 2024

Course Instructor(s)

Mr. Muhammad Ali Fatmi

Do not write below this line

Attempt all the questions.

CLO 01: Apply software engineering concepts to construct (i.e. design, develop, and test) a software system in team setting.

Q1: Answer the Following Question.

1. Which method is used to set the preferred size of a Swing component?
2. How do you set the horizontal alignment of text in a JLabel?
3. Which method sets the icon for a JButton?
4. Which method sets the default close operation for a JFrame?
5. Which method sets the model for a JComboBox?
6. To set the font of a component, which method should be used?
7. To set the background color of selected items in a JList, use:
8. To set whether a component is visible or hidden, which method should be used?
9. To set the selected state of a JCheckBox, you use:
10. What does the setIndeterminate(boolean indeterminate) method do in a JProgressBar?

CLO 02: Implement software design patterns as a part of software construction activities.

Q2: Answer the Following Question

1. What is Swing in Java and how does it differ from AWT?
2. Explain the concept of "lightweight" and "heavyweight" components in Swing.
3. Describe the Model-View-Controller (MVC) architecture as applied in Swing.
4. What is AWT in Java.
5. Explain the concept of Look and Feel in Swing and how it can be customized.

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CLO 01: Apply software engineering concepts to construct (i.e. design, develop, and test) software in team setting.

Q3: Answer the Following Question.

[Marks: 03]

1. Analyze the differences between `windowStateChanged` and `windowClosing` events in a Swing application.
2. Compare and contrast `JPopupMenu` and `JMenu`. How do their use cases and interactions with the user differ, and when would you use one over the other?
3. What is the purpose of a `JSeparator` within a `JMenu` versus a `JPopupMenu`? How does its placement affect the organization of menu items in each context?

CLO 02: Implement software design patterns as a part of software construction activity

Q4: Compare the following Java collections in terms of:

[Marks: 4]

- **Ordering:** How the elements are ordered or if the collection preserves insertion order.
- **Underlying Structure:** The internal data structure used (e.g., array, linked list, etc.).
- **Best Use Case:** When and why you would choose this particular collection.

Array List	Linked List	Vector	Stack	Priority Queue	Array Deque	HashSet	Linked HashSet	TreeSet
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