



DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. – SEMESTER – V, IT
SUBJECT: [IT 510] CORE JAVA TECHNOLOGY

Examination : Second Sessional
Date : 07/09/2017
Time : 11:30 to 12:45 PM

Seat No. :
Day : Thursday
Max. Marks : 36

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
 2. The symbols used carry their usual meanings.
 3. Assume suitable data, if required & mention them clearly.
 4. Draw neat sketches wherever necessary.
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- Q.1 Do as directed.** [12]
- (a) Explain situations when we get (i) NullPointerException and (ii) InterruptedException. [2]
 - (b) Describe re-throwing an exception and nested try statements. [2]
 - (c) Write the reasons for suspend() and stop() methods of Thread class being deprecated. [2]
 - (d) 1. Explain difference between Choice and List components. [1]
2. _____ is immediate super class of ActionEvent? [1]
 - (e) 1. What is the method used to change the characters entered by the user in the text field (generally used for password)? [1]
2. Which method is used to make the text field non-editable by the user? [1]
 - (f) 1. _____ is the method used to know the label of the button clicked by the user? [1]
2. _____ is the super class of TextField and TextArea? [1]
- Q.2 Attempt *Any Two* from the following questions.** [12]
- (a) Define GenericSort class, which can sort an array in ascending order. Define IntegerSort, which extends GenericSort and implements its abstract methods. Place appropriate methods/data members in both classes. Also write a class to test this IntegerSort class. [6]
 - (b) Implement solution of Manager-Worker problem (one manager and multiple workers) using multithreading for the problem: packaging some product. In this problem, if the amount of work assigned to a worker is 20, then the worker packages 20 products one by one with a sleep period of 1 second after each packaging done. Worker displays appropriate message about the packaging done for each item on console, e.g., Packaging of 1 out of 20 items is done. Manager assigns different amount of work to each worker. Make sure that Manager exits after all workers have finished their work. Write Worker class and Manager class. Test the solution with three workers having different amount of work. [6]
 - (c) Explain the following terms: [6]
 1. throw
 2. throws
 3. finally
 4. Unchecked exception
 5. Main thread
 6. Thread priority
- Q.3 Attempt *ALL* from the following questions.** [12]
- (a) 1. What is a layout manager? What are different layout managers available in Java? Explain BorderLayout in detail. [3]
2. Write a java application program to change background color of frame based on selection of color, as shown in Figure-1. [3]
 - (b) Write an application program as shown in Figure-2, Rectangle position should be changed accordingly for different Button (move Up, Left, Right or Down). On each move, the rectangle should move by 10 pixels. [6]

OR

- Q.3 Attempt **ALL** from the following questions. [12]
- (a) 1. Write an application that allows drawing a hollow rectangle and filled rectangle of size 40 (width) X 20 (height) in the center of the frame. A hollow rectangle is drawn when user presses R key and filled rectangle is drawn when user presses F key. [3]
2. What is Anonymous Inner Class? Write a java program to close the Frame using Adapter class concept. [3]
- (b) Write an application which performs addition and multiplication of two numbers. Create Menu named as Calculator. In this menu, add two MenuItems named as Add and Mul. On clicking Add menu item, the program should perform addition and on clicking Mul menuitem it should perform multiplication. Take appropriate AWT components for labeling, taking input from user, and performing operation. [6]

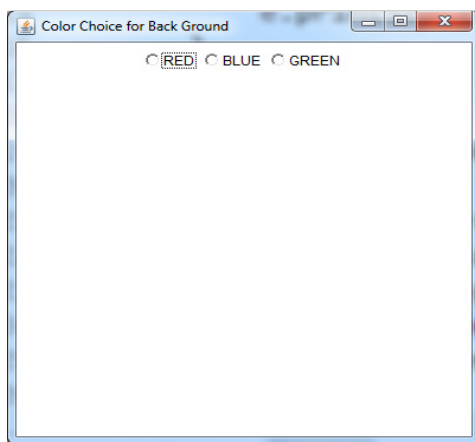


Figure- 1 Color

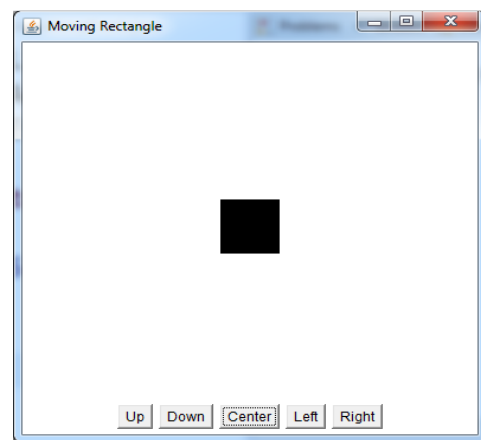


Figure- 2 Rectangle