GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB

Course Code: GR15A2072 L:0 T:0 P:2 C:2
II Year II Semester

Prerequisites: Knowledge on C, C++

Course Objectives
- To implement various java concepts.
- To write java programs to solve mathematics, science and engineering problems.
- To identify compile time and runtime errors, syntax and logical errors
- To import the essentials of java class library and user defined packages.
- To develop skills in internet programming using applets and swings

Course Outcomes
At the end of this course the students will be:
- Able to write java program for a given problem.
- Able to use java jdk environment to create, debug, compile and run java programs.
- Able to import user defined packages and java standard API library to write complex programs.
- Able to develop an application using applets and swings.

Recommended Systems/Software Requirements
Intel based desktop PC with minimum of 166 MHZ or faster processor with atleast 64 MB RAM and 100 MB free disk space JDK Kit. Recommended

Week-1: Write java programs that implement the following
a) Constructor
b) Parameterized constructor
c) Method overloading
d) Constructor overloading.

Week-2
a) Write a Java program that checks whether a given string is a palindrome or not. Ex: MADAM is a palindrome.
b) Write a Java program for sorting a given list of names in ascending order.
c) Write a Java Program that reads a line of integers, and then displays each integer and the sum of all the integers (Use StringTokenizer class of java.util)

Week-3: Write java programs that uses the following keywords

a) this
b) super
c) static
d) final

Week-4

a) Write a java program to implement method overriding
b) Write a java program to implement dynamic method dispatch.
c) Write a Java program to implement multiple inheritance.
d) Write a java program that uses access specifiers.

Week-5

a) Write a Java program that reads a file name from the user, then displays information about whether the file exists, whether the file is readable, whether the file is writable, the type of file and the length of the file in bytes.
b) Write a Java program that reads a file and displays the file on the screen, with a line number before each line.
c) Write a Java program that displays the number of characters, lines and words in a text file

Week-6

a) Write a Java program for handling Checked Exceptions.
b) Write a Java program for handling Unchecked Exceptions.

Week- 7

a) Write a Java program that creates three threads. First thread displays "Good Morning" every one second, the second thread displays "Hello" every two seconds and the third thread displays "Welcome" every three seconds.
b) Write a Java program that correctly implements producer consumer problem using the concept of inter thread communication.

Week-8

a) Develop an applet that displays a simple message.
b) Develop an applet that receives an integer in one text field, and computes its factorial value and returns it in another text field, when the button named "Compute" is clicked.

Week 9

Write a Java program that works as a simple calculator. Use a grid layout to arrange button for the digits and for the +, -,*, % operations. Add a text field to display the result.

Week-10

a) Write a Java program for handling mouse events.
b) Write a Java program for handling key events.

Week-11

1. Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the textfields Num1 and Num 2.
   The division of Num1 and Num2 is displayed in the Result field when the Divide button is clicked. If Num1or Num2 were not an integer, the program would throw NumberFormatException. If Num2 were Zero, the program would throw an Arithmetic Exception and display the exeption in a message dialog box.

Week -12

a) Write a java program that simulates traffic light. The program lets the user select one of three lights: red, yellow or green. When a radio button is selected, the light is turned on, and only one light can be on at a time No
l Light is on when the program starts.
b) Write a Java program that allows the user to draw lines, rectangles and ovals.

Week -13

Create a table in Table.txt file such that the first line in the file is the header, and the remaining lines correspond to rows in the table. The elements are separated by commas. Write a java program to display the table using JTable component.

Text Books

1. Java;the complete reference,8th editon ,Herbert Schildt, TMH.
2. Java How to Program, Sixth Edition, H.M.Dietel and P.J.Dietel, Pearson Education/PHI.
3. Introduction to Java programming, Sixth edition, Y.Daniel Liang, Pearson Education.
4. Big Java, 2nd edition, Cay Horstmann, Wiley Student Edition, Wiley India Private Limited