

II B.Tech I Sem

15ACS10-OPERATING SYSTEMS AND JAVA PROGRAMMING LAB

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Course Objective/Outcomes

- To introduce java compiler and eclipse platform
- To impart hand on experience with java programming

Note:

1. IDEs are not mandatory, encourage the use of Eclipse or Netbean platform
2. The list suggests the minimum program set. Hence, the concerned staff is requested to add more problems to the list as needed

JAVA PROGRAMMING

1. Use Eclipse or Netbean platform and acquaint with the various menus. Create a test project, add a test class and run it. See how you can use auto suggestions, auto fill. Try code formatter and code refactoring like renaming variables, methods and classes. Try debug step by step with java program to find prime numbers between 1 to n.
2. Write a Java program that prints all real and imaginary solutions to the quadratic equation $ax^2 + bx + c = 0$. Read in a, b, c and use the quadratic formula.
3. Write a Java program for sorting a given list of names in ascending order
4. Write a java program to accept a string from user and display number of vowels, consonants, digits and special characters present in each of the words of the given text.
5. Write a java program to make rolling a pair of dice 10,000 times and counts the number of times doubles of are rolled for each different pair of doubles.

Hint: Math.random()

6. Write java program that inputs 5 numbers, each between 10 and 100 inclusive. As each number is read display it only if it's not a duplicate of any number already read display the complete set of unique values input after the user enters each new value.
7. Write a java program to read the time intervals (HH:MM) and to compare system time if the system time between your time intervals print correct time and exit else try again to repute the same thing. By using StringTokenizer class
8. Write a java program to split a given text file into n parts. Name each part as the name of the original file followed by .part<n> where n is the sequence number of the part file.
9. Write java program to create a super class called Figure that receives the dimensions of two dimensional objects. It also defines a method called area that computes the area of an object. The program derives two subclasses from Figure. The first is Rectangle and second is Triangle. Each of the sub class overridden area() so that it returns the area of a rectangle and a triangle respectively.

10. 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

11. Write a Java program that correctly implements producer consumer problem using the concept of inter thread communication

12. Write a java program to find and replace pattern in given file,

13. Use inheritance to create an exception super class called EexceptionA and exception sub class ExceptionB and ExceptionC, where ExceptionB inherits from ExceptionA and ExceptionC inherits from ExceptionB. Write a java program to demonstrate that the catch block for type ExceptionA catches exception of type ExceptionB and ExceptionC

OPERATING SYSTEMS LAB

1. Simulate the following CPU scheduling algorithms
 - a) Round Robin b) SJF c) FCFS d) Priority
2. Simulate all file allocation strategies
 - a) Sequential b) Indexed c) Linked
3. Simulate MVT and MFT
4. Simulate all File Organization Techniques
 - a) Single level directory b) Two level c) Hierarchical d) DAG
5. Simulate Bankers Algorithm for Dead Lock Avoidance
6. Simulate Bankers Algorithm for Dead Lock Prevention
7. Simulate all page replacement algorithms
 - a) FIFO b) LRU c) LFU Etc. ...
8. Simulate Paging Technique of memory management.

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