Unit -1: Programming in Java

Assignments:

1. How does Java Programming Language Work? Explain the execution process of a Java program in detail.
2. Write an object-oriented java program to find the area of circle, area of triangle, area and perimeter of rectangle.
3. Define class. How do you create a class in Java? Differentiate class with interface.
4. What are exceptions? Why is it important to handle exception? Discuss different keywords that are used to handle exception.
5. Discuss aby 5 exception classes in java. Write a program to demonstrate your own exception class.
6. An array is called balanced if it's even numbered elements (a[0], a[2], etc.) are even and its odd numbered elements (a[1], a[3],etc.) are Odd. Write a function named is Balanced that accepts an array of integers and returns 1 if the array is balanced otherwise, it returns 0.
7. What is interface? Define inheritance. Discuss the benefits of using inheritance. How can you use the concept of interface to achieve multiple inheritance? Discuss with suitable example.
8. Discuss the use of multithreading with suitable example. Discuss life cycle of thread in detail.
9. Discuss any five classes to handle files in java.
10. Write a simple java program to read and write to files.
11. Write a simple java program that reads data from one file and writes data to another file.
12. Define the chain of constructor. What is the purpose of private constructor?
13. Write a program to execute multiple threads in priority base.
14. When do we use final method and final class? Differentiate between function overloading and function overriding.
15. Write a simple Java program that reads a file named "Test.txt" and displays its contents.

16. Describe the responsibility of Serializable interface. Write a program to read an input string from the user and write the vowels of that string in VOWEL.TXT and consonants in CONSOLNANT.TXT.

17. A non-empty array A of length n is called on array of all possibilities if it contains all numbers between 0 and a length-1 inclusive. Write a method named isAllPossibilities that accepts an integer array and returns 1 if the array is an array of all possiblities, otherwise it returns 0.

18. When does the finally block is mandatory in while handling exception? Describe with a suitable scenario.

19. What is the task of manifest file? Write the procedure to create it.

20. What is package? How can you create your own package in Java? Explain with example.

21. Write a java program that writes objects of Employee class in the file named emp.doc. Create Employee class as of your interest.