

23CSB101 - OBJECT ORIENTED PROGRAMMING

PART A

1. What is byte code?
2. Distinguish between object and a class.
3. What is Abstraction?
4. Write the general form of the 'for each' version of the for statement.
5. Define Encapsulation.
6. What is the difference between method and constructor?
7. What is the use of final keyword?
8. How dynamic method resolution is achieved in Java?
9. Define Abstract class.
10. Difference between class and interface?
11. What is object cloning?
12. What are the methods provided by object class?
13. What is the role of JVM?
14. Why Java doesn't support multiple inheritance?
15. What are the different types of Access modifiers in java?
16. List out the primitive data types in java.
17. Explain the purpose of the static keyword in java.
18. Difference between JDK, JRE and JVM.
19. What is method overloading?
20. Can you return an object from a method in Java? Give an example.

PART B

1. What is a Constructor? Explain with example.
2. Explain in detail about the various concepts of object-oriented programming.
3. Explain in detail about the features of object-oriented programming.
4. Construct a Java Program to store employee details and retrieve the information using Object and Classes.
5. Explain in detail about constructor overloading.
6. Explain in detail about the basics of inheritance and elaborate on any two inheritance mechanisms in Java.
7. Explain the method overloading in detail.
8. Given a positive integer n, find the sum of all integers in the range [1, n] inclusive that are divisible by 3, 5, or 7.

Return an integer denoting the sum of all numbers in the given range satisfying the constraint.

Example 1:

Input: n = 7

Output: 21

Explanation: Numbers in the range [1, 7] that are divisible by 3, 5, or 7 are 3, 5, 6, 7. The sum of these numbers is 21.

Example 2:

Input: n = 10

Output: 40

Explanation: Numbers in the range [1, 10] that are divisible by 3, 5, or 7 are 3, 5, 6, 7, 9, 10. The sum of these numbers is 40.

Example 3:

Input: n = 9

Output: 30

Explanation: Numbers in the range [1, 9] that are divisible by 3, 5, or 7 are 3, 5, 6, 7, 9. The sum of these numbers is 30.

Constraints:

$1 \leq n \leq 10^3$

9. Write a Java program to accept 'n' names, store it in an array, sort the names in alphabetic order and display the result. Use classes and methods.
10. You are given a positive integer array `nums = [1,15,6,3]`. The element sum is the sum of all the elements in `nums`. The digit sum of all the digits that appear in `nums`. Return the absolute difference between the element sum and digit sum of `nums`.