Academy of Technology

Department of Computer Science & Engineering, Semester: 5TH

Paper Name: Object Oriented Programming Lab

Paper Code: PCC-CS593

Laboratory Assignment: 5

1. Write a program in Java using a method Discount( ), to calculate a single discount or a successive discount. Use overload methods Discount(int), Discount(int,int) and Discount(int,int,int) to calculate single discount and successive discount respectively. Calculate and display the amount to be paid by the customer after getting discounts on the printed price of an article.

Sample Input:

Printed price: ₹12000

Successive discounts = 10%, 8%

= ₹(12000 - 1200)

= ₹(10800 - 864)

Amount to be paid = ₹9936

2. Write a program in Java to accept the name of an employee and his/her annual income. Pass the name and the annual income to a function Tax(String name, int income) which displays the name of the employee and the income tax as per the given tariff:

Annual Income	Income Tax
Up to ₹2,50,000	No tax
₹2,50,001 to ₹5,00,000	10% of the income exceeding ₹2,50,000
₹5,00,001 to ₹10,00,000	₹30,000 + 20% of the amount exceeding ₹5,00,000
₹10,00,001 and above	₹50,000 + 30% of the amount exceeding ₹10,00,000

3. An electronics shop has announced a special discount on the purchase of Laptops as given below:

Category	Discount on Laptop
Up to ₹25,000	5.0%
₹25,001 - ₹50,000	7.5%
₹50,001 - ₹1,00,000	10.0%
More than ₹1,00,000	15.0%

Define a class Laptop described as follows:

Data members/instance variables:

1. name
2. price
3. dis
4. amt

Member Methods:

1. A parameterized constructor to initialize the data members
2. To accept the details (name of the customer and the price)
3. To compute the discount
4. To display the name, discount and amount to be paid after discount.

Write a main method to create an object of the class and call the member methods.

4. Write a program by using a class with the following specifications:
Class name — Calculate
Instance variables:

1. int num
2. int f
3. int rev

Member Methods:

1. Calculate(int n) — to initialize num with n, f and rev with 0 (zero)
2. int prime() — to return 1, if number is prime
3. int reverse() — to return reverse of the number
4. void display() — to check and print whether the number is a prime palindrome or not

5. The population of a country in a particular year can be calculated by:
p*(1+r/100) at the end of year 2000, where p is the initial population and r is the growth rate.
Write a program by using a class to find the population of the country at the end of each year from 2001 to 2007. The Class has the following specifications:
Class name — Population
Data Members — float p,r
Member Methods:

1. Population(int a,int b) — Constructor to initialize p and r with a and b respectively.
2. void print() — to calculate and print the population of each year from 2001 to 2007.