

Program Set 2

Dates: 21.11.2022 – 24.11.2022

1. Check if a number is divisible by 3 or not.
 - a. Use if
 - b. Use if else
2. If cost price and selling price of an item are input through the keyboard, write a program to determine whether the seller has made profit or incurred loss.
 - a. Use conditional operator (?:)
 - b. Also print how much profit he made or loss he incurred.
3. Input the three sides of a triangle. Output if (use else-if)
 - a. It is a valid triangle. If no, print that it is invalid.
 - b. If yes, then print its type:
 - i. right angled
 - ii. Equilateral
 - iii. Isosceles
 - iv. scalene
4. Write a menu driven program which has following options (cases) for two user input integers: Use switch case.
 1. Add.
 2. Subtract
 3. Multiply
 4. Divide
 5. Exponentiate
 6. Print Bye and exit

Extra Practice Problems:

1. Read in the coordinates (x,y) of 3 points in 2-d plane and check if they are collinear
2. Read in the coefficients a, b, c of the quadratic equation $ax^2 + bx + c = 0$, and print its roots. If they are imaginary, print that they are imaginary roots.
3. Find the greatest of three integers using conditional operators.
4. A library charges a fine for every book returned late. For first 5 days the fine is 5 INR per day, for 6-10 days fine is 10INR per day and above 10 days fine is 50 INR per day. If you return the book after 30 days your membership will be cancelled. Write a program to accept the number of days the member is late to return the book and display the appropriate message with fine.