

Programming Fundamentals

Assignment NO.1

Deadline: Friday 27-10-2023

Arithmetic Operations:

1. Write a C++ program to add two numbers and display the result.
2. Create a program that calculates the area of a rectangle using user input for its length and width.
3. Calculate the perimeter of a square with a user-provided side length.
4. Write a program to convert degrees Celsius to Fahrenheit using the formula: $F = (C * 9/5) + 32$.
5. Create a program that calculates the average of three user-inputted numbers.

Comparison Operators:

1. Write a C++ program that checks if a user-inputted number is even or odd and displays the result.
2. Develop a program to compare two user-inputted numbers and determine which one is larger.
3. Check if a user-inputted age is greater than or equal to 18 (legal adult) and display "Legal" or "Not Legal" accordingly.
4. Write a program to determine if a user-provided number is positive, negative, or zero.
5. Create a program to check if a user-inputted character is a letter (A-Z or a-z) or not.

Logical Operators:

1. Create a program that checks if a number is both divisible by 2 and 3. Display "Divisible" or "Not divisible" accordingly.
2. Write a C++ program that checks if a user-inputted number is between 10 and 20 (inclusive) and displays "In range" or "Out of range."
3. Develop a program that checks if a user-inputted year is a leap year and whether it's divisible by 4 but not by 100, or divisible by 400.
4. Check if a user-inputted character is a vowel (a, e, i, o, u) using logical operators.
5. Create a program that checks if a number is both odd and not divisible by 7.

Conditional Programming (if-else):

1. Write a C++ program that determines if a user-inputted number is positive, negative, or zero using if-else statements.
2. Develop a program that classifies a user-inputted age as a child (0-12), teenager (13-19), adult (20-59), or senior (60+).
3. Create a program that calculates the square of a user-inputted number and ensures that the result is positive.
4. Check if a user-inputted character is a lowercase letter, uppercase letter, digit, or special character.
5. Write a C++ program that determines if a user-inputted year is a leap year or not, using if-else statements.