NIT-J CSED

Computer Programming Lab

Lab 2: Conditional statements and Switch

1. Write a C program to check whether a number is ODD or EVEN, using if else and switch.

2. WAP to check whether a character is VOWEL or CONSONANT using switch statement.

3. a) WAP to find the largest among three numbers using (i) *nested if* statements, (ii*) else if* statements, (iii) conditional operator?:

   b) WAP to check whether a character is an alphabet, digit. If it is an alphabet then check it is in upper case or lower case. If it is in lower case then check it is vowel or consonant. If it is a digit then check whether it is divisible by 2 and 5 or not.

4. Write a program to print the month name corresponding to the digit enter from the user using switch statement. For example if user enter 1 then print "January" on 2 print "February"… and so on.

5. WAP a read a three digits number from the keyboard and check whether it is a palindrome or not.
   (Hint: If we reverse a number and the reverse number is same as the original number then it is palindrome. For example, the number 121 is a palindrome.)

6. WAP to find the eligibility of admission of a student for a professional institute based on the following criteria:
   Marks in Mathematics >=65,
   Marks in Physics >=55,
   Marks in Chemistry >=60,
   Total in all three subjects >=190 or Total in Mathematics and Chemistry >=130
   (Hint: Input: marks obtained in Physics: 55, marks obtained in Chemistry: 61
   marks obtained in Mathematics: 72, Output: The candidate is eligible for admission.)

7. Write a C program to input marks of five subjects and calculate the percentage. Also Calculate Grade according to the following:
   Percentage>= 90% A
   Percentage>=80% B
   Percentage>=70% C
   Percentage>=60% D
   Percentage>=40% E
   Percentage<40% Fail

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Home Assignment

1.Write a C program to check a given year is leap-year or not.

2. Write a C program to input the coefficients of a quadratic equation and find the roots of an Equation.

3. WAP to do the following tasks on a triangle:
a) Input angles of a triangle and check whether triangle is valid or not. (Hint: Input all three angles of triangle in some variable say angle1, angle2 and angle3. Find sum of all three angles, store sum in some variable say sum = angle1 + angle2 + angle3. Check if (sum = = 180) then, triangle can be formed otherwise not. In addition, make sure angles are greater than 0 i.e., check condition for angles if (angle1!= 0 && angle2 != 0 && angle3 != 0).

b) Input all sides of a triangle and check whether triangle is valid or not. (Hint: A triangle is valid if sum of its two sides is greater than the third side. Means if a, b, c are three sides of a triangle. Then the triangle is valid if all three conditions are satisfied. a + b > c, a + c > b and b + c > a)

c) Whether the triangle is equilateral, isosceles or scalene triangle. (Hint: Input sides of a triangle from user. Store it in some variables say side1, side2 and side3. Check if (side1 = = side2 && side2 = = side3), then the triangle is equilateral. If it is not an equilateral triangle then it may be isosceles. Check if (side1 = = side2 || side1 = = side3 || side2 = = side3), then triangle is isosceles. If it is neither equilateral nor isosceles then it scalene triangle.)