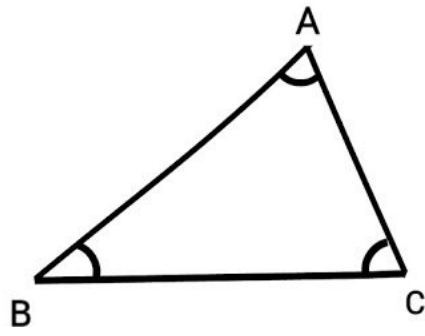| **CSE141 Introduction to Programming**	**LAB – 03 Practice Problems**
	Basic Decision Structure (if, if-else and Switch Statements)

Lab Tasks

1. Write a C program to check whether a number is multiple of 3 or not. If it is then print "This number is multiple of 3", otherwise print "This number is not multiple of 3".

2. Write a program to see greeting according to time using 24 hour format if time between is 5 to 11 it should greet "Good Morning", if time is between 12 to 18 it should greet "Good Evening", if time between 18 to 24 it should greet "Good Night".

3. You must have seen the question before deleting anything like "Are you sure to delete [Y/y] / [N/n] ? Create a program that asks for this question if user enters Y or y it prints "Deleted successfully" if the user enters N or n it prints "Delete cancelled" otherwise it prints choose the right option.

4. Create a calculator asking for operator (+ or – or * or /) and operands and perform calculation according to the user input.

5. Write a C program to input a character from user and check whether given character is small alphabet, capital alphabet, digit or special character, using if else.

6. Write a program to check if character is vowel or consonant.

7. An online shopping store is providing discounts on the items due to the Eid. If the cost of items is more than 1999 it will give a discount upto 50%. If the cost of shopping is 2000 to 4000, a 20% discount will be applied. If the cost of shopping is 4001 to 6000, a 30% discount will be applied. If it's more than 6000 then 50% discount will be applied to the cost of shopping. Print the actual amount, saved amount and the amount after discount.

8. An android developer wants to design a mobile feature to control the brightness of the mobile phone according to the surrounding light. In order to do it he uses an ambient light sensor (for the detection of surrounding light) which is commonly built in in all latest android phones. It gives the value of light intensity in integers. Write a C program for Light sensor value ranges from 0-1000, if it's exposed under sunshine (>500), if it's evening then (0 ~ 100), lighting (100 to 500).

9. Write a C program to find all roots of a quadratic equation, it is required to take user input for a, b and c values. Find discriminant using formula

$$discriminat = (b \times b) - (4 \times a \times c)$$

Compute roots based on the nature of discriminant. If discriminant > 0 then,
root1 = (-b + sqrt(discriminant)) / (2*a) and
root2 = (-b - sqrt(discriminant)) / (2*a).

If discriminant == 0 then, root1 = root2 = -b / (2*a). Else if discriminant < 0 then, there are two distinct complex roots where
root1 = -b / (2*a) and root2 = -b / (2*a).

10. Write a C program to check whether a triangle is valid or not if angles are given

$A+B+C=180^{\circ}$