CS1160
Lab assignment 3: if and Switch

Date 25 October 2020 **Online Lab Session**

I. Overview

If statement is used when we need to execute a block of statements only when a given condition is true.

If (*condition-expression*){
Statements :

} else {
Statements :

}

```
#include <stdio.h>
int main()
{
int value;
printf("Please enter a value: ");
scanf("%d", &value);
if (value == 0) {
printf("The value was 0\n");
printf("Thank you for your input\n");
} else {
printf("The value was not 0\n");
printf("Thank you for your input\n");
}
printf("Bye\n");
return 0;
}
```

II. Programs to write using conditions

1) Given are the following variables: i = 1 j = 2 k = 3 m = 2 Fill in the following table:

expression	True or false?	value (0 or 1)
k != 3	false	0
i==1		
j==3		
i>=1 && j < 4		
m <= 99 && k < m		
j >= i || k == m		
k+m<j || 3-j >= k		
!m		
!(j-m)		
!(k>m)		
!(j>k)		

2) Write a program that reads two values a and b. If b is 0, output “b is 0”. Otherwise output the result of the division of a by b (a / b).

3) Write a program that reads three input values. Output the maximum value of the three.

4) Use (if … else) to write a complete C application that asks the user to enter an integer Q Range ("deviation IQ") and output the IQ Classification according to the following table:

Q Range ("deviation IQ")	IQ Classification
130 and above	Very Superior
120–129	Superior
110–119	High Average
90–109	Average
80–89	Low Average
70–79	Borderline
69 and below	Extremely Low

5) Write a C program to create Simple Calculator using **switch case.**

6) Write a program that reads an integer composed of three digits using scanf. The program should display in English each individual digit of the number.

   For example, if the user enters 139, the program should display One Three Nine

Hint: to extract the individual digits of a three-digit number, use the following algorithm
Ones = number % 10
Number = number – ones
Tens = number %100
Number = number – tens
Tens = tens/10
Hundreds = (number % 1000)/100
Example: if number is equal to 139, then ones = 9, tens= 3, hundreds = 1