Experiment No-03: Decision Making or Conditional Statements in C.

Objectives

- Write C programs Using If Statement.
- Write C programs Using If Else and Else If Ladder Statement.
- Solve different problems using If Else Statement .

Example 1: Program to demonstrate the use of If statement.

Write a C program that will evaluate the ratio of (a + b) to (c – d) and will print the result, if c – d is not equal to zero. The four values a, b, c and d should be taken from the output terminal.

```c
#include<stdio.h>

int main( )
{
    int a, b, c, d;
    float ratio;

    printf("Enter four integer values\n");
    // Read the values of a,b,c,d
    scanf("%d%d%d%d",&a,&b,&c,&d);
    // if statement block
    if (c-d != 0){
        ratio = (a+b)/(c-d);
        printf("Ratio = %f\n", ratio);
    }

    return 0;
}
```

Lab Task 1:

Example 2: Program to demonstrate the use of If Else statement.

Write a C program to check whether a given integer number is Even or Odd.

```c
// Check whether an integer is odd or even

#include <stdio.h>

int main() {
    int number;
    printf("Enter an integer: ");
    scanf("%d", &number);
```

```
    // True if the remainder is 0
    if (number%2 == 0) {
        printf("%d is an even integer.",number);
    }
    else {
        printf("%d is an odd integer.",number);
    }

    return 0;
}
```

Lab Task 2:

Example 3: Program to demonstrate the use of Else if Ladder.

Write a C program to relate the two integers using equal, greater or less symbol.

```
// Program to relate two integers using =, > or < symbol

#include <stdio.h>

int main() {
    int number1, number2;
    printf("Enter two integers: ");
    scanf("%d %d", &number1, &number2);

    //checks if the two integers are equal.
    if(number1 == number2) {
        printf("Result: %d = %d",number1,number2);
    }

    //checks if number1 is greater than number2.
    else if (number1 > number2) {
        printf("Result: %d > %d", number1, number2);
    }

    //checks if both test expressions are false
    else {
        printf("Result: %d < %d",number1, number2);
    }

    return 0;
}
```

Lab Task 3:

*** Please use your reference book of C programming for better understanding the basic syntax of each conditional statements and also include them in your lab report. ***

Practice Exercise

1. Write a C program to find maximum between three numbers.
2. Write a C program to check whether a number is negative, positive or zero.
3. Write a C program to check whether a number is divisible by 5 and 11 or not.
4. Write a C program to check whether a year is leap year or not.
5. Write a C program to input all sides of a triangle and check whether triangle is valid or not.
6. Write a C program to check whether the triangle is equilateral, isosceles or scalene triangle.
7. Write a C program to find all roots of a quadratic equation.
8. Write a C program to input electricity unit charges and calculate total electricity bill according to the given condition:
   For first 50 units Rs. 0.50/unit
   For next 100 units Rs. 0.75/unit
   For next 100 units Rs. 1.20/unit
   For unit above 250 Rs. 1.50/unit
   An additional surcharge of 20% is added to the bill.

Resources (Link)

[Resource Link 1] [Resource Link 2]