

C-Programming Lab Sheet
I Year / I Part
Faculty: Computer/Electrical/Civil

Labsheet#2

Objectives:

1. If Statement & Relational Operator
2. If-else Statement
3. Nested if-else Statement
4. Logical Operator
5. Conditional Operator
6. Switch Statement

Objective#1**1.1 If statement and relational operator**

Evaluate f(y) where

1 for x>0

f(y)= 0 for x=0

-1 for x=-1

```
#include<stdio.h>
#include<conio.h>
void main(){
    int x,y;
    clrscr();
    printf("Enter the value of x");
    scanf("%d",&x);
    if(x>0) y=1;
    if(x==0) y=-1;
    printf("%d",y);
    getch();
}
```

Objective#2: if-else statement

Input two values a, b and compare them.

```
#include<stdio.h>
#include<conio.h>
void main(){
    int a,b;
    clrscr();
    printf("Enter the value of a,b");
    scanf("%d%d",&a,&b);
    if(a>b)
        printf("a is greater than b");
    else
        printf("b is greater than b");
    getch();
}
```

Assignment:

2.1 Write a program to input a number and test whether the given number is even or odd.

Objective#3: Nested if-else statement

```
#include<stdio.h>
#include<conio.h>
#define PI 3.1415
void main(){
    int i,j,r=10 ;
    clrscr();
    printf("enter the value for i");
    scanf("%d",&i);
    printf("enter the value for j");
    scanf("%d",&j);
    if(i==j)
        printf("the variable I is equal to variable J");
    else if(i==r)
        printf("the variable I is equal to variable r");
    else if(r==j)
        printf("the variable r is equal to variable j");
    else
        printf("the three variables are not equal to each other");
    getch();
}
```

Assignment:

3.1 Modify the above program to show that all three variables equal to each other.

3.2 Write the algorithm, flowchart and a program to find the root of a quadratic equation.

Objective#4: Logical Operators

```
#include<stdio.h>
#include<conio.h>
void main(){
    int marks;
    printf("enter the marks of a student");
    scanf("%d",&marks);
    if(marks<32)
        printf("Fail");
    else if (marks>=32 && marks<45)
        printf("Third division");
    else if(marks>=45 && marks <60)
        printf("second division");
    else
        printf("First division");
    getch();
}
```

Assignment:

4.1 In the above problem find out whether the student is a second division or not, using logical OR operator. Hint: if(marks<45 || marks>=60) print not a second division otherwise print second division.

4.2 In the above problem find out whether the student is Pass or Not, using a logical NOT operator.

Objective#5: Conditional Statement

```
#include<stdio.h>
#include<conio.h>
void main(){
    int a,m;
    clrscr();
    printf("Enter the value for a");
    scanf("%d",&a);
    m=(a>4)?(4*a+a):(5*a-4*a);
    printf("the output is %d",m);
    getch();
}
```

Assignment:

5.1 Evaluate the expression

$Y=1.5x$ for $x \leq 2$
 $2x+5$ for $x > 2$ using conditional operator.

Objective#6: Switch statement

```
#include<stdio.h>
#include<conio.h>
void main(){
    int choice, quantity, tcost;
    clrscr();
    printf("Here is the menu\n");
    printf("1—Momo\n2—Chopsy\n3—chowmin\nenter choice no");
    scanf("%d",&choice);
    switch(choice)
    {
        Case 1:
            Printf("enter the quantity");
            Scanf("%d",&quantity);
            tcost=25*quantity;
            printf("item \t unitcost \t quantity \t total cost \n ");
            printf("momo\t\t25\t\t%d\t\t%d\n",quantity, tcost);
            break;

        Case 2:
            Printf("enter the quantity");
            Scanf("%d",&quantity);
            tcost=30*quantity;
            printf("item \t unitcost \t quantity \t total cost \n ");
            printf("chopsy\t\t30\t\t%d\t\t%d\n",quantity, tcost);
            break;

        Case 3:
            Printf("enter the quantity");
            Scanf("%d",&quantity);
            tcost=30*quantity;
            printf("item \t unitcost \t quantity \t total cost \n ");
            printf("chowmin\t\t30\t\t%d\t\t%d\n",quantity, tcost);
            break;

        default:
            printf("\n incorrect choice");
    }
    getch();
}
```