Session_4(Switch)

==
1. Write and execute C program to perform a desired arithmetic operation
using switch statement. Declare choice as char data type and check whether
the divisor is zero, if divisor is zero print "Divide by Zero error"
==

```c
#include<stdio.h>
void main( )
{
    int a, b, c;
    char choice;

        printf("\n Press + for addition");
        printf("\n Press - for subtraction");
        printf("\n Press * for Mul");
        printf("\n Press / for Div");

        printf("\n Enter your choice");

        scanf("%c", &choice);
        printf("  Enter 2 numbers \n");
        scanf("%d%d",&a,&b);

        switch(choice)
        {
            case '+':
                c = a + b;
                printf("%d\n", c);
                break;
            case '-':
                c = a - b;
                printf("%d\n", c);
                break;
            case '*':

                c = a * b;
                printf("%d\n", c);
                break;
            case '/':
                if(b==0)
                    {
                    printf("Divid by zero error");
                    }
                else
                 {
                 c = a / b;
                 printf("%d\n", c);
                 }
                 break;
            default:
                printf("you have passed a wrong key");

        }
    }
```

```
==========================================================================
2.Write and execute a C program to print branch name for appropriate
section name using switch statement. Declare choice as char data type and
print the result.
      Section Name       | Branch Name
        A, B                | Computer Science and Engineering
        C, D                | Electronics & Communication Engineering
        E               | Electronics & Instrumentation Engineering
        F                   | Chemical Engineering
        G                   | Medical Electronics
        H,I                 | Information Science and Engineering
==========================================================================
```

```c
#include<stdio.h>
void main( )
{
    char choice;
    printf("\n Enter Your section name");
    scanf("%c", &choice);
    switch(choice)
     {
       case 'A':
              printf("Computer Science and Engineering");
              break;
       case 'B':
               printf("Computer Science and Engineering");
               break;
             case 'C':
                 printf("Electronic and Communication Engineering");
                 break;

             case 'D':
                 printf("Electronic and Communication Engineering");
                 break;

             case 'E':
                 printf("Electronic and Instrumentation
     Engineering");
                 break;

             case 'F':
                 printf("Chemincal Engineering");
                 break;

             case 'G':
                 printf("Medical Electronics");
                 break;

             case 'H':
                 printf("Information Science and Engineering");
                 break;
             case 'I':
                 printf("Information Science and Engineering");
                 break;
             default:
                 printf("you have Entered invalid section");

        }
     }
```

```
========================================================================
3. Write and execute C program to read numbers using keyboard and find area
of triangle, square, circle and rectangle using switch statement and
display the result.
========================================================================

        #include<stdio.h>
        #include<math.h>

        int main()
        {

        float l,a,b,c,s,r,area;

        int ch;
        printf("\n1.Area Of Triangle ");
        printf("\n2.Area Of Triangle ");
        printf("\n3.Area Of Circle");
        printf("\n4.Area Of Rectangle");

        printf("\nEnter Your Choice :");
        scanf("%d",&ch);

        switch(ch)
        {

                case 1:

                printf("\nEnter Three Sides Of The Triangle:");
                scanf("%f%f%f",&a,&b,&c);;
                s=(a+b+c)/2;
                area=sqrt(s*(s-a)*(s-b)*(s-c));
                printf("Area of Triangle= %f",area);
                break;

                case 2:

                printf("\nEnter  a side of Sqaure:");
                scanf("%f",&s);
                area=s*s;
                printf("Area of Rectangle= %f",area);
                break;

                case 3:

                printf("\nEnter Radius Of The Circle: ");
                scanf("%f",&r);
                area=3.14*r*r;
                printf("Area of Circle= %f",area);
                break;

                case 4:
                printf("\nEnter Length And Breadth Of Rectangle:");
                scanf("%f%f",&l,&b);
                area=l*b;
                printf("Area of Rectangle= %f",area);
                break;
                default: printf("\n Invalid Choice Try Again...!!!");
                break;
        }
         return 0;
        }
```

```
========================================================================
Write and execute a C program to read a number using keyboard and print the
Roman representation for a given range of numbers 1 to 5 using switch
statement.
========================================================================

        #include<stdio.h>
        void main( )
        {
            int a;
             printf("\n Enter a number (1-5)");
             scanf("%d", &a);
             printf("Roman representation Of entered Number");
                switch(a)
                {
                    case 1:
                        printf("I \n");
                        break;
                    case 2:
                        printf("II \n");
                        break;
                    case 3:
                        printf("III \n");
                        break;
                    case 4:
                        printf("IV \n");
                        break;
                    case 5:
                        printf("V \n");
                        break;

                    default:
                        printf("you have passed a wrong key");

                }
        }
```

Lab-5-Loops

1. Write and execute a C program to read a number using keyboard , find the factorial of a number using for loop and display the result..

```c
#include <stdio.h>
int main() {
    int n, i;
    long fact = 1;
    printf("Enter an integer: ");
    scanf("%d", &n);
    if (n < 0)
        printf("Error! Factorial of a negative number doesn't exist.");
    else {
        for (i = 1; i <= n; ++i) {
            fact *= fact*i;
        }
        printf("Factorial of %d = %llu", n, fact);
    }

    return 0;
}
```

2. Write and execute a C program to read numbers using keyboard , find the sum of odd numbers and even numbers in first n natural numbers using a for loop

```c
#include <stdio.h>
void main()

{

   int i, num, odd_sum = 0, even_sum = 0;
   printf("Enter the value of num\n");
  scanf("%d", &num);
   for (i = 1; i <= num; i++)
   {
     if (i % 2 == 0)
        even_sum = even_sum + i;
     else
        odd_sum = odd_sum + i;
   }

   printf("Sum of all odd numbers  = %d\n", odd_sum);

   printf("Sum of all even numbers = %d\n", even_sum);

}
```

3..Write and execute a C program to read a number using keyboard, check whether a given number is palindrome or not using a while loop and display the result.

```c
#include <stdio.h>
int main()
{
    int n, r = 0, t;

    printf("Enter an integer to check if it's palindrome or not\n");
    scanf("%d", &n);

    t = n;

    while (t != 0)
    {
        r = r * 10;
        r = r + t%10;
        t = t/10;
    }

    if (n == r)
        printf("%d is a palindrome number.\n", n);
    else
        printf("%d isn't a palindrome number.\n", n);

    return 0;
}
```