

## ASSIGNMENT- 1

Name- DEVI PRASANNA MISHRA

### 1. Find the sum of first 10 natural numbers.

```
#include <stdio.h>
void main()
{
    int j, sum = 0;
    printf("The first 10 natural number is :\n");
    for (j = 1; j <= 10; j++)
    {
        sum = sum + j;
        printf("%d ",j);
    }
    printf("\nThe Sum is : %d\n", sum);
}
```

The first 10 natural number is :  
1 2 3 4 5 6 7 8 9 10  
The Sum is : 55

### 2. Display the multiplication table of a given integer.

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int num, count = 1;
    printf("Enter a number\n");
    scanf("%d", &num);
    printf("\nMultiplication table for %d is:\n\n", num);
    while(count <= 10)
    {
        printf("%d x %d = %d\n", num, count, (num*count));
        count++;
    }

    return 0;
}
```

Enter a number  
5

Multiplication table for 5 is:

5 x 1 = 5  
5 x 2 = 10  
5 x 3 = 15  
5 x 4 = 20  
5 x 5 = 25  
5 x 6 = 30  
5 x 7 = 35  
5 x 8 = 40  
5 x 9 = 45  
5 x 10 = 50

### 3. Display the n terms of odd natural number and their sum.

```
#include<stdio.h>
void main()
{
    int num,i,sum=0;
    printf("enter the number\n");
    scanf("%d",&num);
    i=0;
    do
    {
        if((i%2)==0)
            i++;
        else
        {
            sum=sum+i;
            i++;
        }
    }
    while(i<=num);
    printf("sum of odd numbers %d",sum);
    getch();
}
```

```
enter the number
10
sum of odd numbers 25
```

### 4. Display the pattern like right angle triangles.

```
#include <stdio.h>
void main()
{
    int i,j,rows;
    printf("Input number of rows : ");
    scanf("%d",&rows);
    for(i=1;i<=rows;i++)
    {
        for(j=1;j<=i;j++)
            printf("*");
        printf("\n");
    }
}
```

```
Input number of rows : 6
*
**
***
****
*****
*****
```

### 5. Display the pattern like right angle triangles.

```
#include <stdio.h>
int main()
{
    int i,j,rows,k=1;
    printf("Input number of rows : ");
    scanf("%d",&rows);
    while ( i <= rows)
    {
        for ( j = 1 ; j <= i; j++ )
        {
            printf("%d ",k++);
        }
        printf("\n");
        i++;
    }
    return 0;
}
```

```
Input number of rows : 4
1
2 3
4 5 6
7 8 9 10
```

### 6. Make such a pattern like a pyramid with numbers

```
#include <stdio.h>
int main(){
    int i=1,j,k,n,t=1,g;
    printf("Enter the value for n:");
    scanf("%d",&n);
    g=n+4-1;
    do
    {
        for(k=g;k>=1;k--){
            printf(" ");
        }
        for(j=1;j<=i;j++){
            printf("%d",t++);
        }
        printf("\n");
        g--;
        i++;
    }
    while(i<=n);
    return 0;
}
```

```
}
Enter the value for n:4
1
23
456
78910
```

## 7. display Pascal's triangle.

```
#include <stdio.h>
int main()
{
    int no_row,c=1,blk,i,j;
    printf("Input number of rows: ");
    scanf("%d",&no_row);
    for(i=0;i<no_row;i++)
    {
        for(blk=1;blk<=no_row-i;blk++)
            printf(" ");
        for(j=0;j<=i;j++)
        {
            if (j==0 || i==0)
                c=1;
            else
                c=c*(i-j+1)/j;
            printf("% 4d",c);
        }
        printf("\n");
    }
}
```

```
Input number of rows: 5
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

## 8. Display the first N Terms Of Fibonacci Series. (Using For Loop) ?

```
#include<stdio.h>
void main()
{
    int num,i,num1=0,num2=1,num3;
    printf("Enter the number = ");
    scanf("%d",&num);
    printf("\n%d %d",num1,num2);
    for(i=2;i<num;++i)
    {
        num3=num1+num2;
        printf(" %d",num3);
        num1=num2;
        num2=num3;
    }
```

```
}  
}
```

```
Enter the number = 5  
0 1 1 2 3
```

### 9. Check Whether A Given Number Is A Perfect Number Or Not. (Using While Loop) ?

```
#include<stdio.h>
```

```
void main()
```

```
{  
    int num,rem,i,sum;  
    sum=0;  
    printf("Enter the number =");  
    scanf("%d",&num);  
    i=1;  
    while(i<=(num-1))  
    {  
        rem = num%i;  
        if(rem == 0)  
        {  
            sum=sum+i;  
        }  
        i++;  
    }  
    if(sum==num)  
        printf("The number is Perfect Number");  
    else  
        printf("The number is not Perfect Number");  
}
```

```
Enter the number = 6  
The number is Perfect Number
```

### 10. Find The Armstrong Number For A Given Range Of Number. (Using While Loop)?

```
#include<stdio.h>
```

```
void main()
```

```
{  
    int num,num1,sum,rem;  
    sum=0;  
    printf("Enter the number =");  
    scanf("%d",&num);  
    num1=num;  
    while(num>0)  
    {  
        rem = num%10;  
        sum = sum+rem*rem*rem;  
        num=num/10;  
        printf("The sum is =%d \n",sum);  
    }  
    if(sum == num1)  
        printf("The number is Armstrong number");  
    else
```

```
printf("The number is not Armstrong number");
}
```

```
Enter the number =153
The sum is =27
The sum is =152
The sum is =153
The number is Armstrong number
```

### 11. Determine whether a given number is prime or not. (Using do...while loop)

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int num,i,count=0;
    printf("Enter the positive integer\n");
    scanf("%d",&num);
    i=2;
    do{
        if(num%i==0)
        {
            count=1;
            break;
        }
        i++;
    }
    while(i<=num/2);
    if(num==1){
        printf("you entered %d\n",num);
        printf("%d is neither a prime nor a composite number ",num);
    }
    else{
        if(count==0){
            printf("you entered %d\n\n",num);
            printf("%d is a prime number ",num);
        }
        else{
            printf("you entered %d\n",num);
            printf("%d is not a prime number ",num);
        }
    }

    return 0;
}
```

```
Enter the positive integer
34
you entered 34
34 is not a prime number
```

### 12.Display The Number In Reverse Order. (Using Do...While Loop)?

Answer :

```
#include<stdio.h>
```

```

void main()
{
    int num,rev,rem;
    rev=0;
    printf("Enter the Number = ");
    scanf("%d",&num);
    while(num!=0)
    {
        rem=num%10;
        rev=rev*10+rem;
        num=num/10;
        printf("%d\n",rev);
    }
}

```

```

Enter the Number = 342
2
24
243

```

### 13.Display The Sum Of The Series [ 9 + 99 + 999 + 9999 ...] (Using For Loop) ?

Answer :

```

#include <stdio.h>
void main()
{
    int n,i,s=9;
    int sum =0;
    printf("Enter the number of terms = ");
    scanf("%d",&n);
    for (i=1;i<=n;i++)
    {
        sum +=s;
        printf("%d\t",s);
        s=s*10+9;
    }
    printf("\nThe sum of the series = %d \n",sum);
}

```

```

Enter the number of terms = 4
9      99      999      9999
The sum of the series = 11106

```

### 14. find the sum of the series [ $1 - X^2/2! + X^4/4! - \dots$ ]. (Using while loop)

```

#include <stdio.h>
int main()
{
    float x,sum,t,d;
    int i,n;
    printf("Input the Value of x :");
    scanf("%f",&x);
    printf("Input the number of terms : ");
    scanf("%d",&n);
    sum =1; t = 1;

```

```

        for (i=1;i<n;i++)
        {
            d = (2*i)*(2*i-1);
            t = -t*x*x/d;
            sum =sum+ t;
        }
        printf("\nthe sum = %f\nNumber of terms = %d\nvalue of x = %f\n",sum,n,x);
    }

```

```

Input the Value of x :2
Input the number of terms : 3
the sum = -0.333333
Number of terms = 3
value of x = 2.000000

```

### 15. find the sum of the series $[x-x^3+x^5+...]$

```

#include <stdio.h>
#include <math.h>
int main()
{
    int x,sum,ctr,i=1,n,m,mm,nn;
    printf("Enter the value for x:");
    scanf("%d",&x);
    printf("Enter the value for n:");
    scanf("%d",&n);
    sum=x;
    m=-1;
    printf("The value of the series:\n");
    printf("%d\n",x);
    do
    {
        ctr=(2*i+1);
        mm=pow(x,ctr);
        nn=mm*m;
        printf("%d\n",nn);
        sum=sum+nn;
        m=m*(-1);
        i++;
    }
    while(i<n);
    printf("\n The sum=%d\n",sum);
}

```

```

Enter the value for x:3
Enter the value for n:4
The value of the series:
3
-27
243
-2187

The sum=-1968

```



