

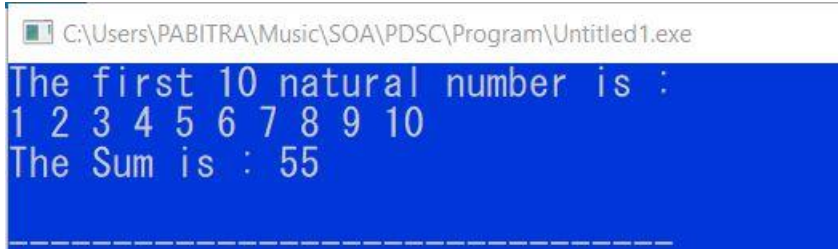
Assignment 5

Name = Pabitra Pattanaik

1. Find The Sum Of First 10 Natural Numbers. (Using For Loop) ?

Answer :

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



2. Display The Multiplication Table Of A Given Integer (Using While Loop) ?

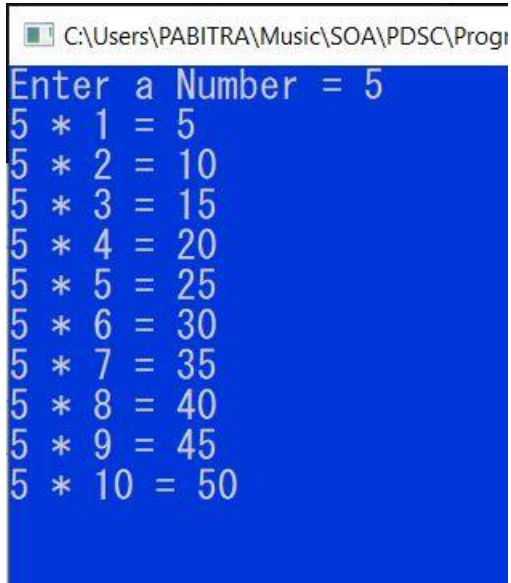
Answer :

```
#include <stdio.h>
void main()
{
    int num, i;
    printf("Enter a Number = ");
    scanf("%d", &num);
    i = 1;
    while(i <= 10)
```

```

    {
printf("%d * %d = %d \n", num, i, num*i);
++i;
}
getch();
}

```



```

C:\Users\PABITRA\Music\SOA\PDSC\Progr
Enter a Number = 5
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50

```

3. Display The N Terms Of Odd Natural Number And Their Sum (Using Do...While Loop) ?

Answer :

```

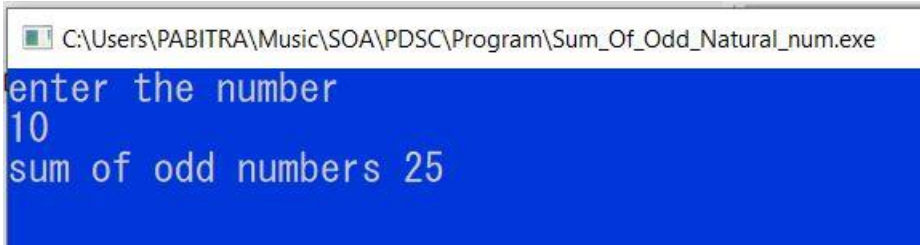
#include<stdio.h>
void main()
{
    int num,i,sum=0;
    printf("enter the number\n");
    scanf("%d",&num);
    i=0;
    do
    {
        if((i%2)==0)
            i++;
        else
        {
            sum=sum+i;
            i++;
        }
    }
}

```

```

}
while(i<=num);
    printf("sum of odd numbers %d",sum);
    getch();
}

```



```

C:\Users\PABITRA\Music\SOA\PDSC\Program\Sum_Of_Odd_Natural_num.exe
enter the number
10
sum of odd numbers 25

```

4. Display The Pattern Like Right Angle Triangles. (Using For Loop) ?

```

*
**
***
****

```

Answer :

```

#include <stdio.h>
void main()
{
    int i, j, r;
    printf("Enter the number of row that you want to show = ");
    scanf("%d", &r);
    for (i = 1; i <= r; ++i)
    {
        for (j = 1; j <= i; ++j)
        {
            printf("* ");
        }
        printf("\n");
    }
}

```

```
C:\Users\PABITRA\Music\SOA\PDSC\Program\triangle.exe
Enter the number of row that you want to show = 5
*
* *
* * *
* * * *
* * * * *
```

5. Display The Pattern Like Right Angle Triangles. (Using While Loop) ?

```
1
2 3
4 5 6
7 8 9 10
```

Answer :

```
#include<stdio.h>
void main()
{
    int num,i,j,k=1;
    printf("Enter no of rows =");
    scanf("%d", &num);
    i=1;
    while(i <= num)
    {
        j = 1;
        while(j <= i)
        {
            printf("%d ", (k++));
            j++;
        }
        printf("\n");
        i++;
    }
}
```

```
C:\Users\PABITRA\Music\SOA\PDSC\Program\number_triangle.exe
Enter no of rows =4
1
2 3
4 5 6
7 8 9 10
```

6. Make Such A Pattern Like A Pyramid With Numbers (Using Do...While Loop) ?

```
1
2 3
4 5 6
7 8 9 10
```

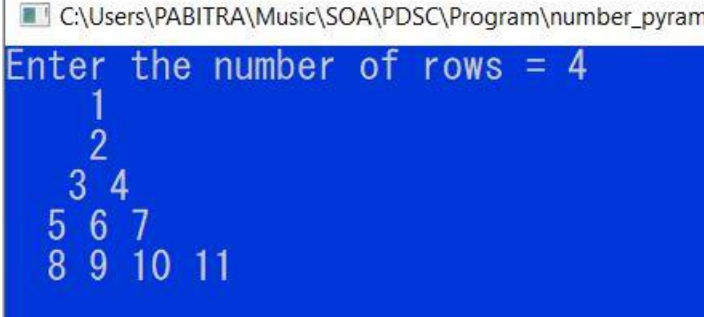
Answer :

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int r,sp,p,num,n,value=1;
    printf("Enter the number of rows = ");
    scanf("%d",&num);
    n=num;
    r=0;
    do
    {
        sp=1;
        do
        {
            printf(" ");
            sp++;
        }
        while(sp<=n);
        n--;
        p=1;
        do
        {
            printf("%d ",value);
            value++;
```

```

        p++;
    }
    while(p<=r);
    r++;
    printf(" \n ");
}
while(r<=num);
getch();
}

```



Enter the number of rows = 4

```

1
2
3 4
5 6 7
8 9 10 11

```

7. Display Pascal's Triangle. (Using For Loop) ?

```

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1

```

Answer :

```

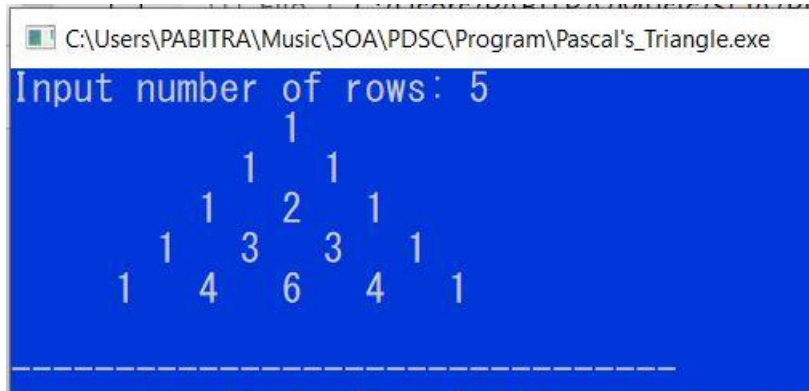
#include <stdio.h>
void main()
{
    int r,c=1,blk,i,j;
    printf("Input number of rows: ");
    scanf("%d",&r);
    for(i=0;i<r;i++)
    {
        for(blk=1;blk<=r-i;blk++)
            printf(" ");
        for(j=0;j<=i;j++)
        {
            if (j==0 || i==0)

```

```

        c=1;
    else
        c=c*(i-j+1)/j;
    printf("% 4d",c);
}
printf("\n");
}
}

```



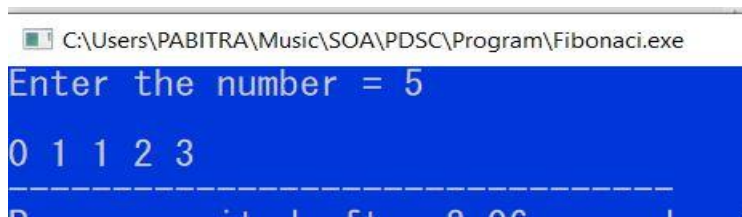
8. Display The First N Terms Of Fibonacci Series. (Using For Loop) ?

Answer :

```

#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;
    }
}

```

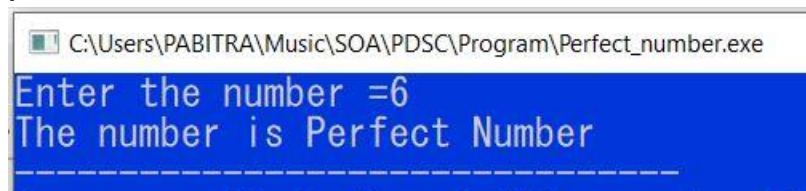


```
C:\Users\PABITRA\Music\SOA\PDSC\Program\Fibonaci.exe
Enter the number = 5
0 1 1 2 3
-----
```

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

Answer :

```
#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");
}
```

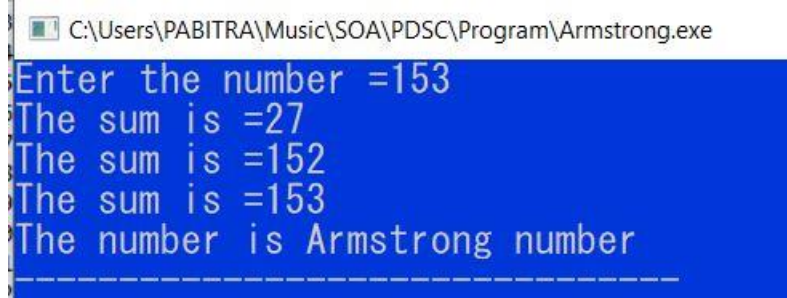


```
C:\Users\PABITRA\Music\SOA\PDSC\Program\Perfect_number.exe
Enter the number =6
The number is Perfect Number
-----
```

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

Answer :

```
#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");
}
```



```
C:\Users\PABITRA\Music\SOA\PDSC\Program\Armstrong.exe
Enter the number =153
The sum is =27
The sum is =152
The sum is =153
The number is Armstrong number
-----
```

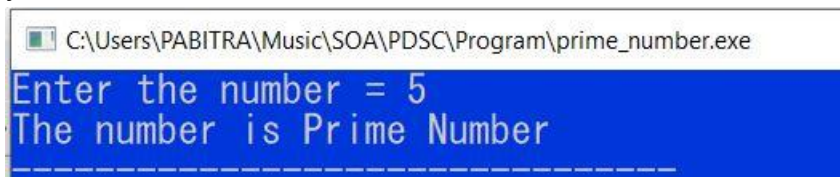
11. Determine Whether A Given Number Is Prime Or Not. (Using Do...While Loop) ?**Answer :**

```
#include<stdio.h>
void main()
{
    int num,i,fact=0;
    printf("Enter the number = ");
    scanf("%d",&num);
```

```

i=1;
while(i<=num)
{
if(num%i==0)
{
fact++;
}
i++;
}
if(fact == 2)
{
printf("The number is Prime Number ");
}
else
{
printf("The number is not Prime Number ");
}
}

```



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

Answer :

```

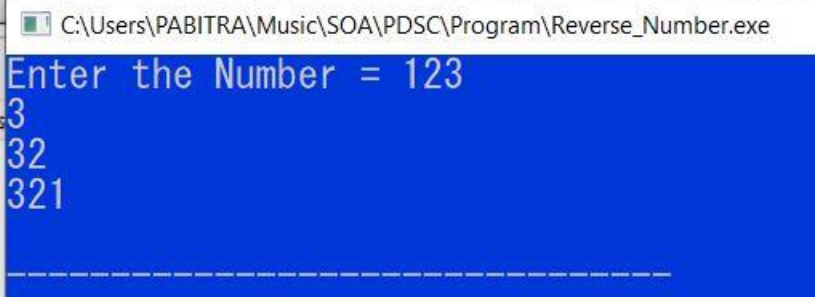
#include<stdio.h>
void main()
{
    int num,rev,rem;
    rev=0;
    printf("Enter the Number = ");
    scanf("%d",&num);
    while(num!=0)
    {
        rem=num%10;
        rev=rev*10+rem;
        num=num/10;
    }
}

```

```

        printf("%d\n",rev);
    }
}

```



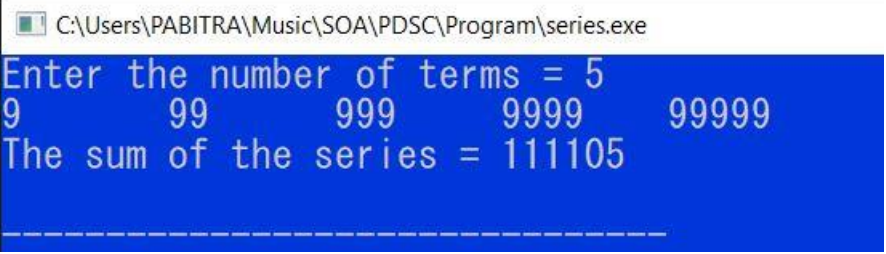
13. Display The Sum Of The Series [9 + 99 + 999 + 9999 ...] (Using For Loop) ?

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);
}

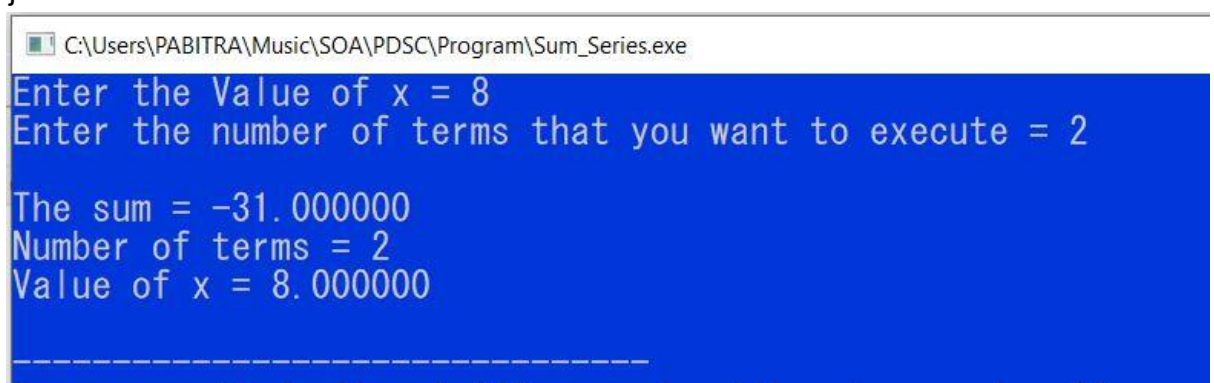
```



14. Find The Sum Of The Series [$1 - X^2/2! + X^4/4! - \dots$]. (Using While Loop) ?

Answer :

```
#include <stdio.h>
void main()
{
    int i,n;
    float a,sum=1,term=1,d;
    printf("Enter the Value of x = ");
    scanf("%f",&a);
    printf("Enter the number of terms that you want to execute = ");
    scanf("%d",&n);
    i=1;
    while(i<n)
    {
        d = (2*i)*(2*i-1);
        term = -term*a*a/d;
        sum =sum+ term;
        i++;
    }
    printf("\nThe sum = %f\nNumber of terms = %d\nValue of x = %f\n",sum,n,a);
}
```



```
C:\Users\PABITRA\Music\SOA\PDSC\Program\Sum_Series.exe
Enter the Value of x = 8
Enter the number of terms that you want to execute = 2

The sum = -31.000000
Number of terms = 2
Value of x = 8.000000
```

15. Find The Sum Of The Series [$X - X^3 + X^5 + \dots$]. (Using Do...While Loop) ?

Answer :