**Assignment – 6**

**Use any loop**

1. **Write a program to calculate sum of first N natural numbers**

**Code**

#include<stdio.h>

int main() {

    int i,n,s=0;

    printf("Enter number of terms for sum of Natural number :");

    scanf("%d",&n);

   for ( i = 1; i <=n; i++)

   {

    s=s+i;

   }

   printf("sum is = %d\n",s);

   return 0;

}

**Output**

Enter number of terms for sum of Natural number :6

sum is = 21

1. **Write a program to calculate sum of first N even natural numbers**

**Code**

#include <stdio.h>

int main()

{

   int i,n,s=0;

   printf("Enter number of even terms for sum of even numbers : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

     s=s+2\*i;

   }

    printf("Sum is : %d\n",s);

  return 0;

}

**Output**

Enter number of even terms for sum of even numbers : 3

Sum is : 12

1. **Write a program to calculate sum of first N odd natural numbers**

**Code**

#include <stdio.h>

int main()

{

   int i,n,s=0;

   printf("Enter number of odd terms for sum of odd numbers : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

     s=s+(2\*i-1);

   }

    printf("Sum is : %d\n",s);

  return 0;

}

**Output**

Enter number of odd terms for sum of odd numbers : 3

Sum is : 9

1. **Write a program to calculate sum of squares of first N natural numbers**

**Code**

#include <stdio.h>

int main()

{

   int i,n,s=0;

   printf("Enter number of terms for square of Natural numbers : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

     s=s+(i\*i);

   }

    printf("Sum is : %d",s);

  return 0;

}

**Output**

**Enter number of terms for square of Natural numbers : 3**

**Sum is : 14**

1. **Write a program to calculate sum of cubes of first N natural numbers**

**Code**

#include <stdio.h>

int main()

{

   int i,n,s=0;

   printf("Enter number of terms for cube of Natural numbers : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

     s=s+(i\*i\*i);

   }

    printf("Sum is : %d",s);

  return 0;

}

**Output**

Enter number of terms for cube of Natural numbers : 3

Sum is : 36

1. **Write a program to calculate factorial of a number**

**Code**

#include <stdio.h>

int main()

{

   int i,n,s=0;

   printf("Enter number for Factorial : ");

   scanf("%d",&n);

   printf("Factorial of %d :\n",n);

   for(i=1;i<=n;i++)

   {

       if(n%i==0)

         {

           printf("%d\n",i);

         }

   }

  return 0;

}

**Output**

Enter number for Factorial : 6

Factorial of 6 :

1

2

3

6

1. **Write a program to count digits in a given number**

**Code**

#include <stdio.h>

int main()

{

   int i,n,count=0, a=0;

   printf("Enter number for count digit : ");

   scanf("%d",&n);

   for(i=1;i<=1000;i++)

   {

      a=n%10;

      count=count+1;

      n=n/10;

      if(n==0)

      break;

   }

   printf("number of digits in given number are : %d",count);

  return 0;

}

**Output**

Enter number for count digit : 235

number of digits in given number are : 3

1. **Write a program to check whether a given number is a Prime number or not**

**Code**

#include <stdio.h>

int main()

{

   int i,n,count=0;

   printf("Enter number for check prime or not : ");

   scanf("%d",&n);

   for(i=2;i<=n;i++)

   {

       if(n%i==0)

         {

          count++;

         }

   }

   if(count==1)

      printf("yes! %d is a prime number",n);

   else

      printf("No! %d is not a prime number",n);

  return 0;

}

**Output**

Enter number for check prime or not : 2

yes! 2 is a prime number

1. **Write a program to calculate LCM of two numbers**

**Code**

#include <stdio.h>

int main()

{

   int i,n1,n2,lcm=0,gcd=0;

   printf("Enter number(N1) for Lcm : ");

   scanf("%d",&n1);

   printf("Enter number(N2) for Lcm : ");

   scanf("%d",&n2);

   printf("The LCM of (%d,%d) :",n1,n2);

   for(i=1;i<=n1&&i<=n1;i++)

   {

       if(n1%i==0 && n2%i==0)

         {

           gcd=i;

         }

   }

   lcm = (n1 \* n2) / gcd;

    printf("The LCM of (%d,%d) : %d",n1,n2,lcm);

  return 0;

}

**Output**

Enter number(N1) for Lcm : 72

Enter number(N2) for Lcm : 120

1. **Write a program to reverse a given number**

**Code**

#include <stdio.h>

int main()

{

   int i,n,s=0, a=0;

   printf("Enter number for reverse digits : ");

   scanf("%d",&n);

   for(i=1;i<=1000;i++)

   {

      a=n%10;

      s=s\*10+a;

      n=n/10;

      if(n==0)

      break;

   }

   printf("reverse digit : %d",s);

  return 0;

}

**Output**

Enter number for reverse digits : 253

reverse digit : 352