**Assignment - 7**

**Iterative Control Statements (Part - 2)**

1. **Write a program to find the Nth term of the Fibonnaci series.**

**Code**

**\** #include<stdio.h>

int main () {

int i,n,a=0,b=1,s;

   printf("Enter a number : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

       s= a+b;

       a=b;

       b=s;

   }

   printf("Nth term of Fibinocci series  : %d",s);

return 0;

}

**Output**

**Enter a number : 4**

**Nth term of Fibinocci series : 5**

1. **Write a program to print first N terms of Fibonacci series**

**Code**

#include<stdio.h>

int main () {

int i,n,a=0,b=1,s;

   printf("Enter a number : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

       s= a+b;

       printf("%d\n",s);

       a=b;

       b=s;

   }

return 0;

}

**Output**

**Enter a number : 4**

**1**

**2**

**3**

**5**

1. **Write a program to check whether a given number is there in the Fibonacci series or not.**

**Code**

#include<stdio.h>

int main () {

int i,n,a=0,b=1,s=0,count=0;

   printf("Enter a number : ");

   scanf("%d",&n);

   for(i=1;i<=n;i++)

   {

       s= a+b;

       a=b;

       b=s;

       if(s==n)

       {

        count=1;

        break;

       }

   }

   if(count==1)

    printf("yes!!, %d is there in the Fibonacci series",n);

   else

    printf("NO!!, %d is not there in the Fibonacci series",n);

return 0;

}

**Output**

**Enter a number : 5**

**yes!!, 5 is there in the Fibonacci series**

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

**Code**

#include<stdio.h>

int main() {

    int i, n1,n2;

    printf("Enter a Number(N1) :");

    scanf("%d",&n1);

    printf("Enter a Number(N2) :");

    scanf("%d",&n2);

    for(i=n1<n2?n1:n2;i>=1;i--)

    {

    if(n1%i==0 && n2%i==0)

       break;

    }

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

    return 0;

}

**Output**

**Enter a Number(N1) :6**

**Enter a Number(N2) :4**

**The Hcf of (6,4) : 2**

1. **Write a program to check whether two given numbers are co-prime numbers or not**

**Code**

#include<stdio.h>

int main() {

    int i, n1,n2, count=0;

    printf("Enter a Number(N1) :");

    scanf("%d",&n1);

    printf("Enter a Number(N2) :");

    scanf("%d",&n2);

    for(i=n1<n2?n1:n2;i>=2;i--)

    {

        if(n1%i==0 && n2%i==0)

         {

             count=1;

             break;

         }

    }

    if(count==0)

    printf("(%d,%d) are coprime",n1,n2);

    else

    printf("(%d,%d) are not coprime",n1,n2);

    return 0;

}

**Output**

**Enter a Number(N1) :4**

**Enter a Number(N2) :2**

**(4,2) are not coprime**

1. **Write a program to print all Prime numbers under 100**

**Code**

#include<stdio.h>

int main() {

    int i,j,count=0;

     for(i=2;i<=100;i++)

       {

           for(j=2;j<=100;j++)

            {

              if(i%j==0)

               count++;

            }

          if(count==1)

          printf("%d ",i);

         count=0;

       }

    return 0;

}

**Output**

**2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97**

1. **Write a program to print all Prime numbers between two given numbers**

**Code**

#include<stdio.h>

int main() {

     int i,j, n1,n2, count=0;

    printf("Enter a Number(N1) :");

    scanf("%d",&n1);

    printf("Enter a Number(N2) :");

    scanf("%d",&n2);

     for(i=n1+1;i<n2;i++)

       {

           for(j=2;j<=100;j++)

            {

              if(i%j==0)

               count++;

            }

          if(count==1)

          printf("%d ",i);

         count=0;

       }

    return 0;

}

**Output**

**Enter a Number(N1) :7**

**Enter a Number(N2) :19**

**11 13 17**

1. **Write a program to find next Prime number of a given number**

**Code**

#include<stdio.h>

int main() {

     int i,j, n, count=0;

    printf("Enter a Number(n) :");

    scanf("%d",&n);

     for(i=n+1;i<=100;i++)

       {

           for(j=2;j<=100;j++)

            {

              if(i%j==0)

               count++;

            }

          if(count==1)

          {

          printf("The next prime number is : %d ",i);

          break;

          }

         count=0;

       }

    return 0;

}

**Output**

**Enter a Number(n) :5**

**The next prime number is : 7**

**9. Write a program to check whether a given number is an Armstrong number or not**

**Code**

#include<stdio.h>

int main () {

int i,n,a=0,b=0,s=0,count=0;

   printf("Enter a number : ");

   scanf("%d",&n);

    b=n;

   for(i=1;i<=n;i++)

   {

       a=b%10;

       s= s+(a\*a\*a);

       b=b/10;

        if(b==0)

        break;

   }

   if(s==n)

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

   else

    printf("NO!!, %d is not a armstrong number",n);

return 0;

}

**Output**

**Enter a number : 407**

**yes!!, 407 is a armstrong number**

1. **Write a program to print all Armstrong numbers under 1000**

**Code**

#include<stdio.h>

int main () {

int i,j,a=0,b=0,s=0;

    for(i=0;i<=1000;i++)

   {

        b=i,s=0;

         for(j=1;j<=1000;j++)

           {

                a=b%10;

                s= s+(a\*a\*a);

                 b=b/10;

                if(b==0)

                break;

            }

           if(s==i)

            printf("%d ",i);

    }

return 0;

}

**Output**

**0 1 153 370 371 407**