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

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

#include<stdio.h>

int main()

{

int s1=0,s2=1,s3;

int i=1,N;

printf (“enter N number:”);

scanf(“%d”,&N);

printf(“first %d terms of Fibonnaci series:\n”,N);

printf(“%d %d “,s1,s2);

while(i<N-1)

{

s3=s1+s2;

printf(“%d “,s3);

s1=s2;

s2=s3;

i++;

}

return 0;

}

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

#include<stdio.h>

int main()

{

int s1=0,s2=1,s3;

int i=1,N;

printf("Enter N number:");

scanf("%d",&N);

while(i<=N-1)

{

s3=s1+s2;

if(i==N-2)

{

printf("first %d term of Fibonnaci series:%d",N,s3);

break;

}

s1=s2;

s2=s3;

i++;

}

return 0;

}

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

#include<stdio.h>

int main()

{

int s1=0,s2=1,s3;

int i=1,N,a;

printf("Enter N number:");

scanf("%d",&N);

printf("enter a number:");

scanf("%d",&a);

printf("%d %d ",s1,s2);

while(i<N-1)

{

s3=s1+s2;

printf("%d ",s3);

s1=s2;

s2=s3;

if(a==s3)

{

printf("\n%d is there in the Fibonacci series:",a);

break;

}

i++;

}

if(i==N-1)

printf("\n%d is not there in the Fibonacci series",a);

return 0;

}

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

#include<stdio.h>

int main()

{

int a,b,i,min;

int hcf;

printf("enter two numbers:");

scanf("%d%d",&a,&b);

min=a<b?a:b;

for(i=1; i<=min; i++)

{

if(a%i==0 && b%i==0)

hcf=i;

}

printf("\n%d is HCF of %d and %d.",hcf,a,b);

return 0;

}

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

#include<stdio.h>

int main()

{

int a,b,i,min;

int hcf;

printf("enter two numbers:");

scanf("%d%d",&a,&b);

min=a<b?a:b;

for(i=1; i<=min; i++)

{

if(a%i==0 && b%i==0)

hcf=i;

}

if(hcf==1)

printf("\n%d and %d are co-prime numbers",a,b);

else

printf("\n%d and %d are not co-prime numbers",a,b);

return 0;

}

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

#include<stdio.h>

int main ()

{

int i,n,flag;

for(n=1; n<=100; n++)

{.

flag=0;

for(i=2; i<n; i++)

if(n%i==0)

{

flag=1;

}

if(flag==0)

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

}

return 0;

}

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

#include<stdio.h>

int main ()

{

int i,n,flag,a,b;

printf("Enter two numbers:");

scanf("%d%d",&a,&b);

for(n=a; n<=b; n++)

{

flag=0;

for(i=2; i<n; i++)

if(n%i==0)

{

flag=1;

}

if(flag==0)

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

}

return 0;

}

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

#include<stdio.h>

int main ()

{

int i,n,flag,a;

printf("Enter a numbers:");

scanf("%d",&a);

for(n=a; n<=1000; n++)

{

flag=0;

for(i=2; i<n; i++)

if(n%i==0)

{

flag=1;

}

if(flag==0)

{

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

break;

}

}

return 0;

}

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

#include<stdio.h>

int main ()

{

int i,n,count=0;

int rem,s,sum=0,num,num1;

printf("enter a number:");

scanf("%d",&n);

num=num1=n;

while(n)

{

count++;

n=n/10;

}

while(num)

{

rem=num%10;

s=pow(rem,count);

sum=sum+s;

num=num/10;

}

if(num1==sum)

printf("%d is an Armstrong number:",num1);

else

printf("%d is not an Armstrong number:",num1);

return 0;

}

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

#include<stdio.h>

#include<math.h>

int main ()

{

int n;

int rem,s,sum,num;

printf("all Armstrong numbers under 1000.\n");

for(n=100; n<=1000; n++)

{

num=n;

sum=0;

while(num)

{

rem=num%10;

s=rem\*rem\*rem;

sum=sum+s;

num=num/10;

}

if(sum==n)

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

}

return 0;

}