C Basic Programs(on numbers)

1.Write a c program to find gcd of two numbers using functions;

#include <stdio.h>

#include <conio.h>

void GCD(int,int);

void main() {

int a,b;

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

GCD(a,b);

}

void GCD(int a,int b)

{

int i,gcd;

for(i=1;i<=a && i<=b;++i)

{

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

gcd=i;

}

printf("The gcd of %d and %d is %d", a,b,gcd);

}

Output:

12 4

4

2.write a c program to find the given number is leap year or not

#include <stdio.h>

#include <conio.h>

void Leapyear(int);

void main()

{

int n;

scanf("%d",&n);

Leapyear(n);

}

void Leapyear(int n)

{

if(n%4==0 && n%400==0 || n%100!=0)

printf("Leapyear");

else

printf(" not Leapyear");

}

Output:

2004

Leap year

1700

Not Leap year

3.write a program to convert decimal to binary number

#include<stdio.h>

void main()

{

int a[10],i,j,n;

scanf("%d",&n);

for(i=0;n>0;i++)

{

a[i]=n%2;

n=n/2;

}

for(j=i-1;j>=0;j--)

{

printf("%d",a[j]);

}

}

output:

7

111

4.Write a program to convert binary to decimal number

#include<stdio.h>

#include<math.h>

void main()

{

int n;

int sum=0,i=0;

scanf("%d",&n);

while(n>0)

{

sum=sum+(n%2)\*pow(2,i);

n=n/10;

i++;

}

printf("%d",sum);

}

output:

111

7

5.write a c program to swap two numbers

#include <stdio.h>

#include <conio.h>

void Swap(int,int);

void main()

{

int x,y;

scanf("%d %d",&x,&y);

Swap(x,y);

}

void Swap(int x,int y)

{

int temp;

temp=x;

x=y;

y=temp;

printf("%d %d",x,y);

}

Output: 12 34

34 12

6. Write a c program to swap two numbers without using another variable

#include <stdio.h>

#include <conio.h>

void Swap(int,int);

void main()

{

int x,y;

scanf("%d %d",&x,&y);

Swap(x,y);

}

void Swap(int x,int y)

{

x=x+y;

y=x-y;

x=x-y;

printf("%d %d",x,y);

7.write a c program to find factorial of given number

#include <stdio.h>

#include <conio.h>

void Fact(int);

void main()

{

int n;

scanf("%d",&n);

Fact(n);

}

void Fact(int n)

{

int fact=1,i;

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

fact=fact\*i;

printf("%d",fact);

}

Output: 5

120

8.write a c pgrogram to find the number in reverse order

#include <stdio.h>

#include <conio.h>

void reverse(int);

void main()

{

int x;

scanf("%d",&x);

reverse(x);

}

void reverse(int x)

{

int rem,rev=0;

while(x>0)

{

rem=x%10;

rev=rev\*10+rem;

x=x/10;

}

printf("%d",rev);

}

Output:

123

321

9.write a c program to check given number is strong number or not

#include <stdio.h>

#include <conio.h>

void Strong(int);

void main()

{

int x;

scanf("%d",&x);

Strong(x);

}

void Strong(int x)

{

int rem,sum=0,i;

int temp=x;

while(x>0)

{

rem=x%10;

int fact=1;

for(i=1;i<=rem;i++){

fact=fact\*i;

}

sum=sum+fact;

x=x/10;

}

if(temp==sum)

printf("strong number");

else

printf("not strong number");

}

Output: 145

Strong number

123

Not strong number

10.write a c program to find given number is amstrong number or not

#include <stdio.h>

#include <conio.h>

#include<math.h>

void Amstrong(int);

void main()

{

int x;

scanf("%d",&x);

Amstrong(x);

}

void Amstrong(int x)

{

int r,count=0;

r=x%10;

count++;

x=x/10;

int sum=0,rem;

int temp=x;

while(x>0)

{

rem=x%10;

sum=sum+pow(rem,count);

x=x/10;

}

if(temp==sum)

printf("Amstrong number");

else

printf("Not an Amstrong number");

}

Output: 153

Armstrong number

11.write a c program to check number is pronic number or not

#include <stdio.h>

#include <conio.h>

void Pronic(int);

void main()

{

int a;

scanf("%d",&a);

Pronic(a);

}

void Pronic(int a)

{

int i,flag=0;

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

{

if(i\*(i+1)==a)

{

flag=1;

break;

}

}

if(flag==1)

printf("pronic number");

else

printf("not a pronic number");

}

Output:

42

Pronic number

36

Not a pronic number

12.write a c program to print fibonacci series up to given range

#include<stdio.h>

#include<conio.h>

void fibonacci(int);

void main()

{

int n;

printf("\nEnter a number",n);

scanf("%d",&n);

fibonacci(n);

}

void fibonacci(int n)

{

int i,c=0;

int a=0;

int b=1;

printf("Fibonacci series for %d terms:-\n",n);

for(i=0;i<n;i++)

{

a=b;

b=c;

c=a+b;

printf("%d ",c);

}

}

Output: 10

0 1 1 2 3 5 8 13 21 34 55

call by refernce of swap program

#include <stdio.h>

void Swap(int \*,int \*);

void main()

{

int x,y;

scanf("%d %d",&x,&y);

Swap(&x,&y);

}

void Swap(int \*x,int \*y)

{

int temp;

temp=\*x;

\*x=\*y;

\*y=temp;

printf("%d %d",\*x,\*y);

}

13.Write a program to check given number is perfect number or not

#include<stdio.h>

void main()

{

int n,i,flag=0,sum=0;

scanf("%d",&n);

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

{

if(n%i==0)

{

sum=sum+i;

}

}

if(sum==n)

printf("Perfect number");

else

printf("not a perfect number");

}

14.Write a program to check given number is palindrome or not

#include <stdio.h>

#include <conio.h>

void reverse(int);

void main()

{

int x;

scanf("%d",&x);

reverse(x);

}

void reverse(int x)

{

int rem,rev=0,temp;

while(x>0)

{

temp=x;

rem=x%10;

rev=rev\*10+rem;

x=x/10;

}

if(temp==rev)

printf("Given number is palindrome);

else

printf("Given number is not a palindrome);

}

Output:

121

Given number is palindrome

123

Given number is not a palindrome