**1)**

#include<stdio.h>

int s=0;

int sum(int x)

{

if(x==0)

{

return 0;

}

s=s+x;

sum(x-1);

return s;

}

int main()

{

int n;

printf("enter any number\n");

scanf("%d",&n);

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

return 0;

}

**2)**

#include<stdio.h>

int s=0;

int sum(int x)

{

if(x==1)

{

return 1;

}

s=2\*x-1 +sum(x-1);

return s;

}

int main()

{

int n;

printf("enter any number \n");

scanf("%d",&n);

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

return 0;

}

**3)**

#include<stdio.h>

int s=0;

int sum(int x)

{

if(x==1)

{

return 1;

}

s=2\*x-1 +sum(x-1);

return s;

}

int main()

{

int n;

printf("enter any number \n");

scanf("%d",&n);

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

return 0;

}

**4)**

#include<stdio.h>

int s=0;

int sum(int x)

{

if(x==0)

{

return 0;

}

s=s+x\*x;

sum(x-1);

return s;

}

int main()

{

int n;

printf("enter any number\n");

scanf("%d",&n);

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

return 0;

}

**5)**

#include<stdio.h>

int s=0;

int sum(int x)

{

int a;

a=x%10;

s=s+a;

if(x>10)

{

sum(x/10);

}

}

int main()

{

int n;

printf("enter any number\n");

scanf("%d",&n);

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

return 0;

}

**6)**

#include<stdio.h>

int fact(int x)

{

int f=1;

if(x==1)

{

return 1;

}

f= x \* fact(x-1);

}

int main()

{

int n;

printf("enter any number\n");

scanf("%d",&n);

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

return 0;

}

**7)**

#include<stdio.h>

int hcf(int x,int y,int z)

{

if(x>=2)

{

if(y%x==0&&z%x==0)

{

return x;

}

else if(y%x!=0||z%x!=0)

{

hcf((x-1),y,z);

}

}

else

{

return 1;

}

}

int main()

{

int n,m,a,b;

printf("enter two number\n");

scanf("%d%d",&n,&m);

if(n>m)

{

a=m;

b=n;

}

else

{

a=n;

b=m;

}

printf("%d",hcf(a,b,a));

return 0;

}

**8)**

#include<stdio.h>

int a=-1,b=1,c;

void fib(int x)

{

c=a+b;

a=b;

b=c;

printf("%d ",c);

if(x==0)

{

return ;

}

fib(x-1);

}

int main ()

{

int n;

printf("enter any number\n");

scanf("%d",&n);

fib(n);

return 0;

}

**9)**

#include<stdio.h>

int a,i=0;

int num(int x)

{

a=x%10;

i++;

if(x>10)

{

num(x/10);

}

return i;

}

int main()

{

int n;

printf("enter any number \n");

scanf("%d",&n);

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

return 0;

}

**10)**

#include<stdio.h>

int p=1;

int power(int x,int y)

{

p=p\*x;

if(y>1)

{

power(x,y-1);

}

return p;

}

int main()

{

int n,p;

printf("enter any number\n");

scanf("%d",&n);

printf("enter the power \n");

scanf("%d",&p);

printf("%d",power(n,p));

return 0;

}