1)

#include<stdio.h>

int sum(int);

int main()

{

int n,result;

printf("Enter the number of terms :");

scanf("%d",&n);

result=sum(n);

printf("The sum = %d",result);

return 0;

}

int sum(int n)

{

if(n==1)

return 1;

return n+sum(n-1);

}

2)

#include<stdio.h>

int sum(int);

int main()

{

int n,result;

printf("Enter the number of terms :");

scanf("%d",&n);

result=sum(2\*n-1);

printf("The sum = %d",result);

return 0;

}

int sum(int n)

{

if(n==1)

return 1;

return n+sum(n-2);

}

3)

#include<stdio.h>

int sum(int);

int main()

{

int n,result;

printf("Enter the number of terms :");

scanf("%d",&n);

result=sum(2\*n-1);

printf("The sum = %d",result);

return 0;

}

int sum(int n)

{

if(n==1)

return 1;

return n+sum(n-2);

}

4)

#include<stdio.h>

int sum(int);

int main()

{

int n,result;

printf("Enter the number of terms :");

scanf("%d",&n);

result=sum(n);

printf("The sum = %d",result);

return 0;

}

int sum(int n)

{

if(n==1)

return 1;

return n\*n+sum(n-1);

}

5)

#include<stdio.h>

int sum(int);

int main()

{

int n,result;

printf("Enter the number:");

scanf("%d",&n);

result=sum(n);

printf("The sum = %d",result);

return 0;

}

int sum(int n)

{

if(n==0)

return 0;

return n%10+sum(n/10);

}

6)

#include<stdio.h>

int factorial(int);

int main()

{

int n,result;

printf("Enter the number:");

scanf("%d",&n);

result=factorial(n);

printf("The factorial = %d",result);

return 0;

}

int factorial(int n)

{

if(n==1)

return 1;

return n\*factorial(n-1);

}

7)

#include<stdio.h>

int hcf(int,int);

int main()

{

int n,m,result;

printf("Enter the 1st number:");

scanf("%d",&n);

printf("Enter the 2nd number:");

scanf("%d",&m);

if (n>m)

result=hcf(n,m);

else

result=hcf(m,n);

printf("The hcf = %d",result);

return 0;

}

int hcf(int a,int b)

{

if(b!=0)

return hcf(b,a%b);

else

return a;

}

8)

#include<stdio.h>

int fibonacci(int);

int main()

{

int n,result;

printf("Enter the number of terms:");

scanf("%d",&n);

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

{

result=fibonacci(i);

printf("%d ",result);

}

return 0;

}

int fibonacci(int a)

{

if(a<2)

return a;

else

return (fibonacci(a-1)+fibonacci(a-2));

}

9)

#include<stdio.h>

int count(int);

int main()

{

int n,result;

printf("Enter the number:");

scanf("%d",&n);

result=count(n);

printf("The number of digits=%d",result);

return 0;

}

int count(int a)

{

static int c=1;

if(a==0)

return 0;

count(a/10);

return c++;

}

10)

#include<stdio.h>

int power(int,int);

int main()

{

int n,r,result;

printf("Enter the number:");

scanf("%d",&n);

printf("Enter the power:");

scanf("%d",&r);

result=power(n,r);

printf("%d",result);

return 0;

}

int power(int a,int b)

{

if(b==0)

return 1;

return a\*power(a,b-1);

}