**A18 - WAP to find factorial of given number using recursion**

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Name : Nestin Gregorios Sunny

Date : 15.05.2025

Description :

Find factorial of given number using recursion. (call 'main()' and using storage class type 'static')

Sample Input :

Enter the value of N : 7

Sample Output :

Factorial of the given number is 120

\*/

#include <stdio.h>

int main()

{

static int num;

static unsigned long long int fact = 1;

if(fact == 1) // to read num value one time

{

//printf("Enter the value of N : ");

scanf("%d",&num);

}

if(num >= 0)

{

if(num)

{

fact = fact \* num;

num--;

main(); //recursion call

}

else // to print factorial value one time

{

printf("Factorial of the given number is %lld",fact);

}

}

else

{

printf("Invalid Input");

}

return 0;

}

**A19 - WAP to generate fibbonacci numbers using recursion**

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Name : Nestin Gregorios Sunny

Date : 19.05.2025

Description :

Program to print positive fibonacci series upto limit

Sample Input :

Enter a number: 8

Sample Output :

0, 1, 1, 2, 3, 5, 8,

\*/

#include <stdio.h>

void positive\_fibonacci(int, int, int, int); //function declaration

int main()

{

int limit;

printf("Enter the limit : ");

scanf("%d", &limit);

if(limit < 0) //only positive values accepted

{

printf("Invalid Input");

}

else

{

positive\_fibonacci(limit, 0, 1, 0); //function call

}

return 0;

}

void positive\_fibonacci(int l, int first, int second, int next) //function definition

{

if(first <= l)

{

printf("%d, ",first);

next = first + second;

first = second;

second = next;

positive\_fibonacci(l, first, second, next); //recursive call

}

/\*if(next <= l)

{

printf("%d, ",next);

positive\_fibonacci(l, second, next, second + next); //recursive call

}\*/

}

**A20 - WAP to generate negative fibbonacci numbers using recursion**

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Name : Nestin Gregorios Sunny

Date : 19.05.2025

Description :

Print negative fibanocci series upto limit using recursive function

Sample Input :

Enter the limit : -8

Sample Output :

0, 1, -1, 2, -3, 5, -8

\*/

#include <stdio.h>

void negative\_fibonacci(int, int, int, int); //function declaration

int main()

{

int limit;

printf("Enter the limit : ");

scanf("%d", &limit);

if(limit > 0) //only accept negative values

{

printf("Invalid input");

}

else if(limit == 0)

{

printf("0");

}

else

{

negative\_fibonacci(limit, 0, 1, 0); //function call

}

return 0;

}

void negative\_fibonacci(int limit, int first, int second, int next) //function definition

{

if(first >= limit)

{

if(first <= -limit)

{

printf("%d ",first);

next = first - second;

first = second;

second = next;

negative\_fibonacci(limit, first, second, next); //recursive call

}

}

}