Iteration:

#include <stdio.h>

#include <stdlib.h>

int fac2(int n)

{

    int val = 1 ;

    if (n == 0)

    {

        val = 1;

        return val;

    }

    while (n > 0)

    {

        val \*= n; n --;

    }

    return val;

}

int main(int argc, char \* argv[])

{

    int x = 5;

    int f = fac2(x);

    printf("%d", f); // RL1

    printf("\n");

    printf("Address of number: %p\n", &x);

    printf("Address of factorial: %p\n", &f);

}

Outputs:

A picture containing indoor, sitting

Description automatically generatedA picture containing indoor, sitting, computer, table

Description automatically generatedA picture containing sitting, table, computer

Description automatically generated

Recursion:

#include <stdio.h>

#include <stdlib.h>

int fac(int n)

{

    int val;

    if (n == 0)

    {

        val = 1;

        return val;

    }

    val = n \* fac(n-1); return val; // RL2

}

int main(int argc, char\* argv[])

{

    int x = 15;

    int f = fac(x);

    printf("%d\n", f); // RL1

    printf("\n");

    printf("Address of number: %p\n", &x);

    printf("Address of factorial: %p\n", &f);

}

Outputs:

A screenshot of a computer

Description automatically generatedA picture containing sitting, drawing

Description automatically generatedA picture containing drawing

Description automatically generated