

```
/*Items addressed in this example:
   recursion
*/
#include <stdio.h>
#include <stdlib.h>

double fact(int);

int main ()
{
    int n;
    double f;
    printf("enter a number for the factorial: ");
    scanf("%d", &n);
    f = fact(n);
    if ( f >= 1)
    {
        printf("the factorial of %d is %.0f\n",n,f);
    }
    else
    {
        printf("n must be >= 0\n");
    }
    system("pause");
    return 0;
}

double fact(int n)
{
    double r;
    r = -1.0;
    if(n >= 0)
    {
        if(n > 0)
        {
            r = (double) n * fact(n-1);
        }
        else
        {
            r = 1.0;
        }
    }
    return r;
}
```