Write a C program to print the factorial of a number using Recursion

#include<stdio.h>

void fibonacci (int n, int fn, int fn1)

{

    if (n > 2)

    {

        int fn2 = fn1 + fn;

        printf("%d ", fn2);

        fibonacci (n-1, fn1, fn2);

    }

}

void main()

{

    int fn = 0, fn1 = 1, n;

    printf("Enter the number of elements you want\n");

    scanf("%d", &n);

    printf("0 1 ");

    fibonacci (n, fn, fn1);

}

Output



Write a C program to print the sum of n natural numbers using Recursion

#include<stdio.h>

void summation (int n, int \*s)

{

    if(n > 0)

    {

        int a;

        scanf("%d", &a);

        \*s = \*s + a;

        summation(n - 1, s);

    }

}

void main()

{

    int n, sum = 0;

    printf("Enter the number of elements you want\n");

    scanf("%d", &n);

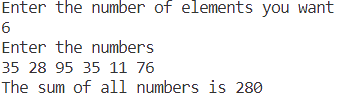
    printf("Enter the numbers\n");

    summation (n, &sum);

    printf("The sum of all numbers is %d\n", sum);

}

Output

Write a C program to print the prime factors of a number using functions

#include<stdio.h>

int prime(int i)

{

    for(int j = 2; j < i; j++)

    {

        if(i % j == 0)

            return 0;

    }

    return 1;

}

void factor(int n)

{

    printf("Prime factors are: ");

    for(int i = 2; i < n; i++)

    {

        if(n % i == 0 && prime(i) == 1)

            printf("%d ", i);

    }

}

void main()

{

    int num;

    printf("Enter the number\n");

    scanf("%d", &num);

    factor(num);

}

Output



Write a C program to swap 2 user entered numbers using call by reference method.

#include<stdio.h>

void swap (int \*p, int \*q)

{

    int temp = \*p;

    \*p = \*q;

    \*q = temp;

}

void main()

{

    int a, b;

    printf("Enter value of two numbers: ");

    scanf("%d %d", &a, &b);

    swap(&a, &b);

    printf("The swapped numbers are %d and %d\n", a, b);

}

Output



Write a function “roman” to convert any given year into its roman equivalent. Use these

roman equivalent for decimal numbers:

1-I , 5-V 10-X, 50-L, 100-C, 500-D, 1000-M

Example1: roman equivalent of 1988 is MDCCCCLXXXVIII

Example 2: roman equivalent of 1525 is MDXXV

#include <stdio.h>

void roman(int year)

{

    int decimal[7] = {1000, 500, 100, 50, 10, 5, 1};

    char \*roman[7] = {"M", "D", "C", "L", "X", "V", "I"};

    printf("Roman equivalent of %d is ", year);

    for (int i = 0; i < 7; i++)

    {

        while (year >= decimal[i])

        {

            printf("%s", roman[i]);

            year = year - decimal[i];

        }

    }

    printf("\n");

}

void main()

{

    int year;

    printf("Enter a year: ");

    scanf("%d", &year);

    roman(year);

}

Output



Write a C program to count the number of digits of a number using recursion

#include<stdio.h>

int counter(int n)

{

    if (n == 0)

        return 0;

    else return 1 + counter (n / 10);

}

void main()

{

    int num, count;

    printf("Enter a number\n");

    scanf("%d", &num);

    count = counter(num);

    printf("Number of digits = %d\n", count);

}

Output

