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| Assignment Code | : | C.S.P0046 |
| Assignment Name | : | Basic Computation Practice |
| Student Name | : | Le Thi Thanh Nhan |
| Time/Date | : | 17h00,6/11/2019 |

Approach

Prime() : if the input number <2 or modulo any numbers except 1 and itself equal 0, return 0, which mean it not a prime number. Then in main, print all prime util count number of prime equal to input number.

isFibonacci(): find the last fibo number smaller than input number, if it equal input number or the input number equal 1, return 1, which mean it a fibonacci number.

sumDigits(): separate digits from input number and plus it to sum, return sum.

Source code

#include <stdio.h>

#include <conio.h>

#include <math.h>

int prime(int n)

{

    int m = sqrt(n);

    int i;

    if (n < 2)

        return 0;

    for (i = 2; i <= m; i++)

        if (n % i == 0)

            return 0;

    return 1;

}

int isFibonacci(int n)

{

    int t1 = 1, t2 = 1, f = 1;

    if (n == 1)

        return 1;

    while (f < n)

    {

        f = t1 + t2;

        t1 = t2;

        t2 = f;

    }

    return n == f;

}

int sumDigits(int n)

{

    int sum = 0;

    do

    {

        int remainder = n % 10;

        n = n / 10;

        sum += remainder;

    } while (n > 0);

    return sum;

}

int main()

{

    int op, i;

    int numPrimes, numTest, n;

    printf("\n1-The first primes");

    printf("\n2-Fibonacci element");

    printf("\n3-Sum of digits");

    do

    {

        printf("\nChoose an option: ");

        scanf("%d", &op);

        switch (op)

        {

        case 1:

            printf("Number of primes: ");

            scanf("%d", &numPrimes);

            i = 2;

            int count = 0;

            while (count < numPrimes)

            {

                if (prime(i) == 1)

                {

                    printf("%d ", i);

                    count++;

                }

                i++;

            }

            break;

        case 2:

            do

            {

                printf("Number tested: ");

                scanf("%d", &numTest);

            } while (numTest < 1);

            if (isFibonacci(numTest) == 1)

                printf("It is a Fibonacci term.");

            else

                printf("It is not a Fibonacci term.");

            break;

        case 3:

            do

            {

                printf("Enter an integer: ");

                scanf("%d", &n);

            } while (n < 0);

            printf("Sum of it's digits: %d\n", sumDigits(n));

            break;

        }

    } while (op > 0 && op < 4);

    getch();

    return 0;

}

Result

