

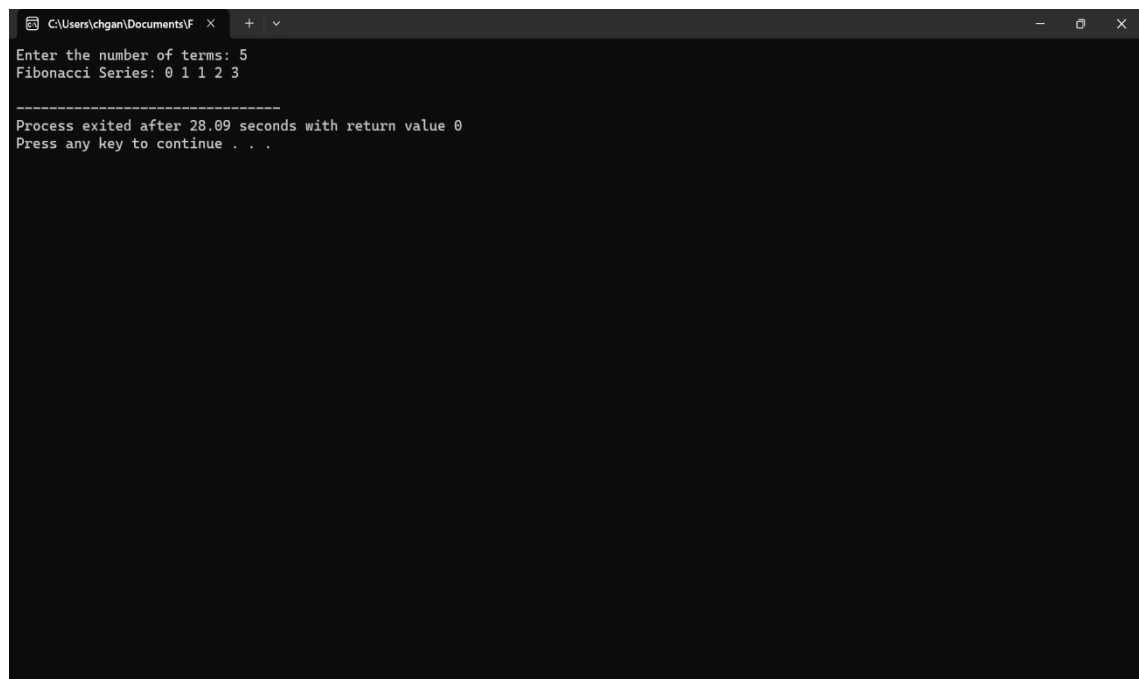
1. C program to print Fibonacci series using recursion.

PROGRAM:

```
#include <stdio.h>
int fibonacci(int n) {
    if (n == 0)
        return 0;
    if (n == 1)
        return 1;
    return fibonacci(n - 1) + fibonacci(n - 2);
}

int main() {
    int n;
    printf("Enter the number of terms: ");
    scanf("%d", &n);
    printf("Fibonacci Series: ");
    for (int i = 0; i < n; i++) {
        printf("%d ", fibonacci(i));
    }
    printf("\n");
    return 0;
}
```

OUTPUT:

A screenshot of a Windows terminal window with a dark background. The window title bar shows the file path 'C:\Users\chgan\Documents\F' and standard window controls. The terminal output is as follows: 'Enter the number of terms: 5' followed by 'Fibonacci Series: 0 1 1 2 3'. A separator line of dashes follows. At the bottom, it says 'Process exited after 28.09 seconds with return value 0' and 'Press any key to continue . . .'.

```
C:\Users\chgan\Documents\F x + v
Enter the number of terms: 5
Fibonacci Series: 0 1 1 2 3

-----
Process exited after 28.09 seconds with return value 0
Press any key to continue . . .
```

2. Program to check whether the given number is Armstrong or not.

PROGRAM:

```
#include <stdio.h>

#include <math.h>

int main() {
    int n, sum = 0, temp, digits = 0;

    printf("Enter a number: ");
    ; scanf("%d", &n)

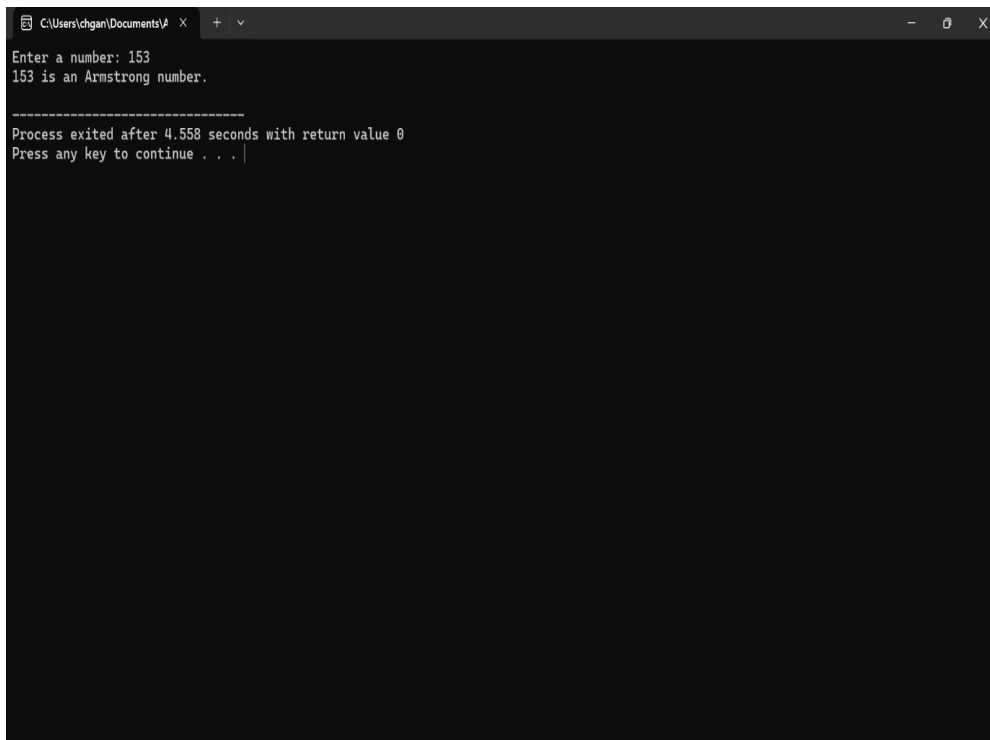
    for (temp = n; temp > 0; temp /= 10) digits++;

    for (temp = n; temp > 0; temp /= 10) sum += pow(temp % 10, digits);

    printf("%d is %s\n", n, (sum == n) ? "an Armstrong number" : "not an Armstrong number");

    return 0;
}
```

OUTPUT:



```
C:\Users\chgan\Documents\p x + v
Enter a number: 153
153 is an Armstrong number.

=====
Process exited after 4.558 seconds with return value 0
Press any key to continue . . .
```

3. Program to find the GCD of two numbers.

PROGRAM:

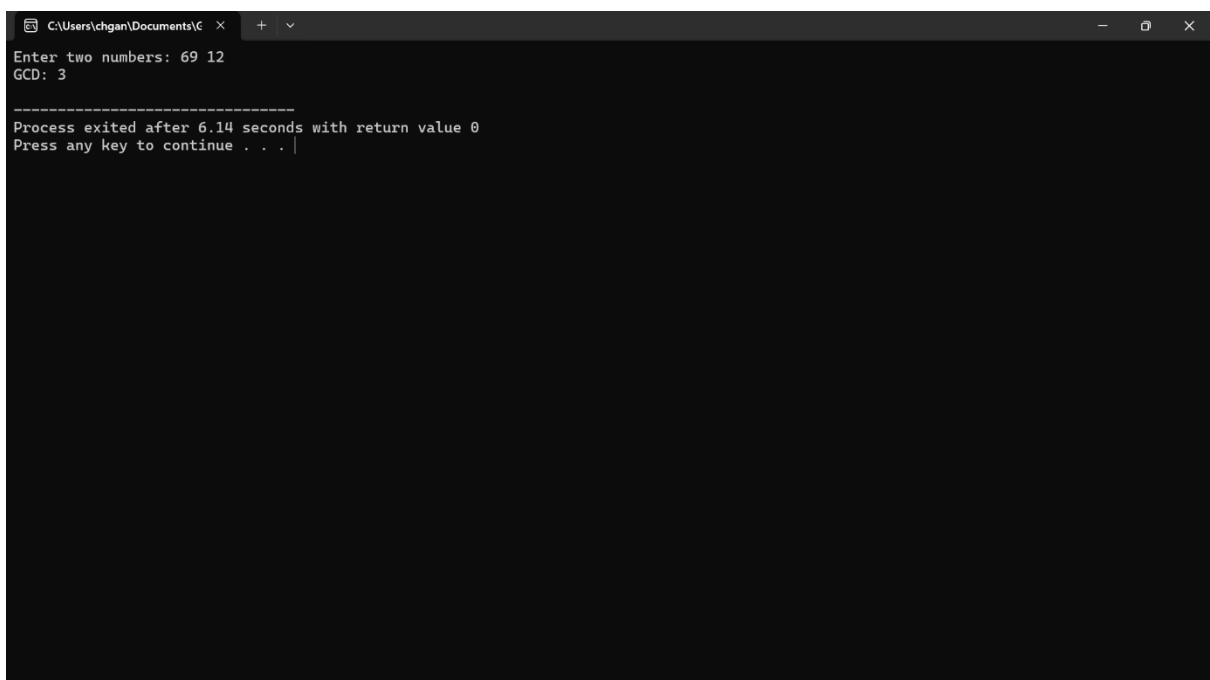
```
#include <stdio.h>

int main() {
    int a, b;

    printf("Enter two numbers: ");
    scanf("%d %d", &a, &b);
    while (b != 0) {
        int temp = b;
        b = a % b;
        a = temp;
    }

    printf("GCD: %d\n", a);
    return 0;
}
```

OUTPUT:



```
C:\Users\chgan\Documents\C x + v
Enter two numbers: 69 12
GCD: 3

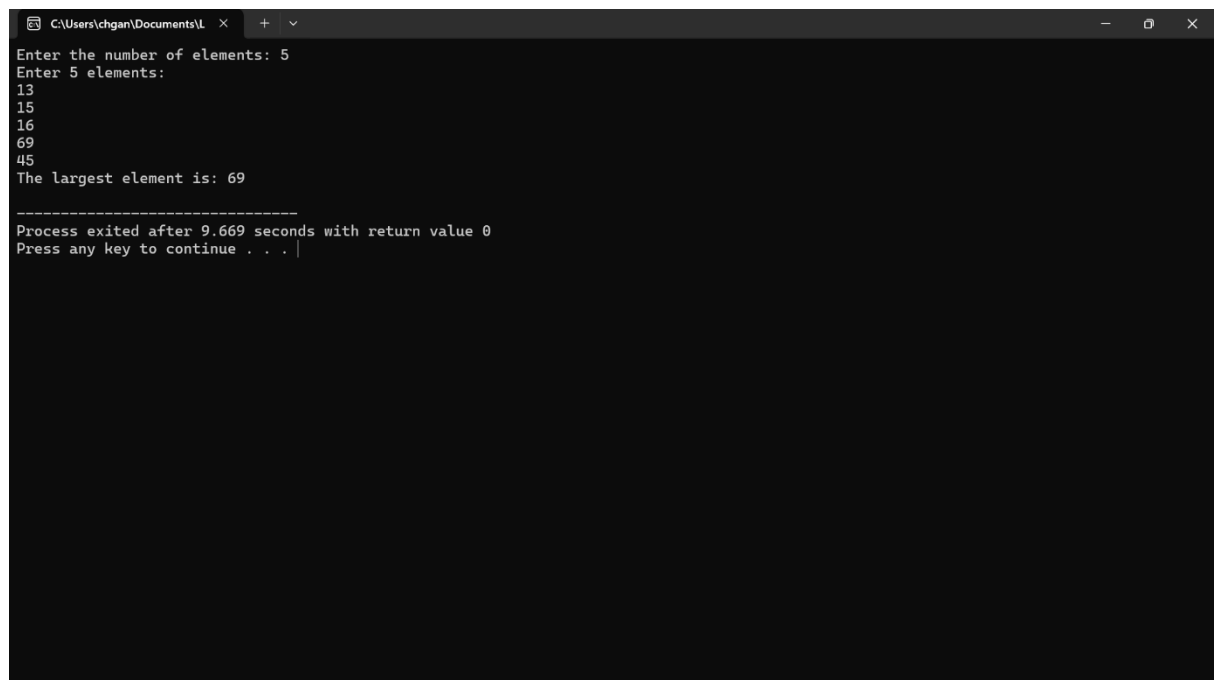
-----
Process exited after 6.14 seconds with return value 0
Press any key to continue . . . |
```

4. Program to find the largest element in an array.

PROGRAM:

```
#include <stdio.h>
int main() {
    int n;
    printf("Enter the number of elements: ");
    scanf("%d", &n);
    int arr[n];
    printf("Enter %d elements:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    int max = arr[0];
    for (int i = 1; i < n; i++) {
        if (arr[i] > max) {
            max = arr[i];
        }
    }
    printf("The largest element is: %d\n", max);
    return 0;
}
```

OUTPUT:



```
C:\Users\chgan\Documents\L x + v
Enter the number of elements: 5
Enter 5 elements:
13
15
16
69
45
The largest element is: 69
-----
Process exited after 9.669 seconds with return value 0
Press any key to continue . . .
```

5. Program to calculate the factorial of a number.

PROGRAM:

```
#include <stdio.h>

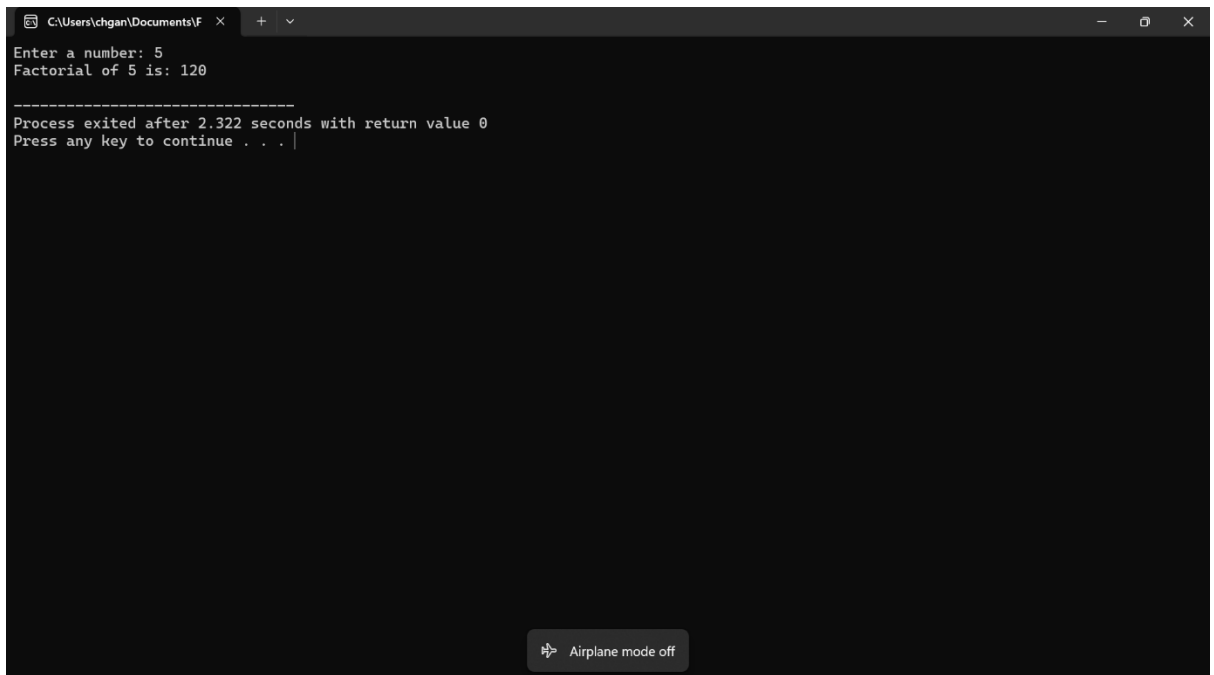
int main() {
    int num, factorial = 1;

    printf("Enter a number: ");
    scanf("%d", &num);

    if (num < 0) {
        printf("Factorial is not defined for negative numbers.\n");
    } else {
        for (int i = 1; i <= num; i++) {
            factorial *= i;
        }
        printf("Factorial of %d is: %d\n", num, factorial);
    }

    return 0;
}
```

OUTPUT:

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\chgan\Documents\F" and standard window controls. The command prompt displays the following text: "Enter a number: 5", "Factorial of 5 is: 120", a separator line "-----", "Process exited after 2.322 seconds with return value 0", and "Press any key to continue . . . |". At the bottom right, there is a button that says "Airplane mode off".

```
C:\Users\chgan\Documents\F >
Enter a number: 5
Factorial of 5 is: 120

-----
Process exited after 2.322 seconds with return value 0
Press any key to continue . . . |
```

6. Program to check whether the input number is prime or not.

PROGRAM:

```

#include <stdio.h>
int main() {
    int num, isPrime = 1;
    printf("Enter a number: ");
    scanf("%d", &num);

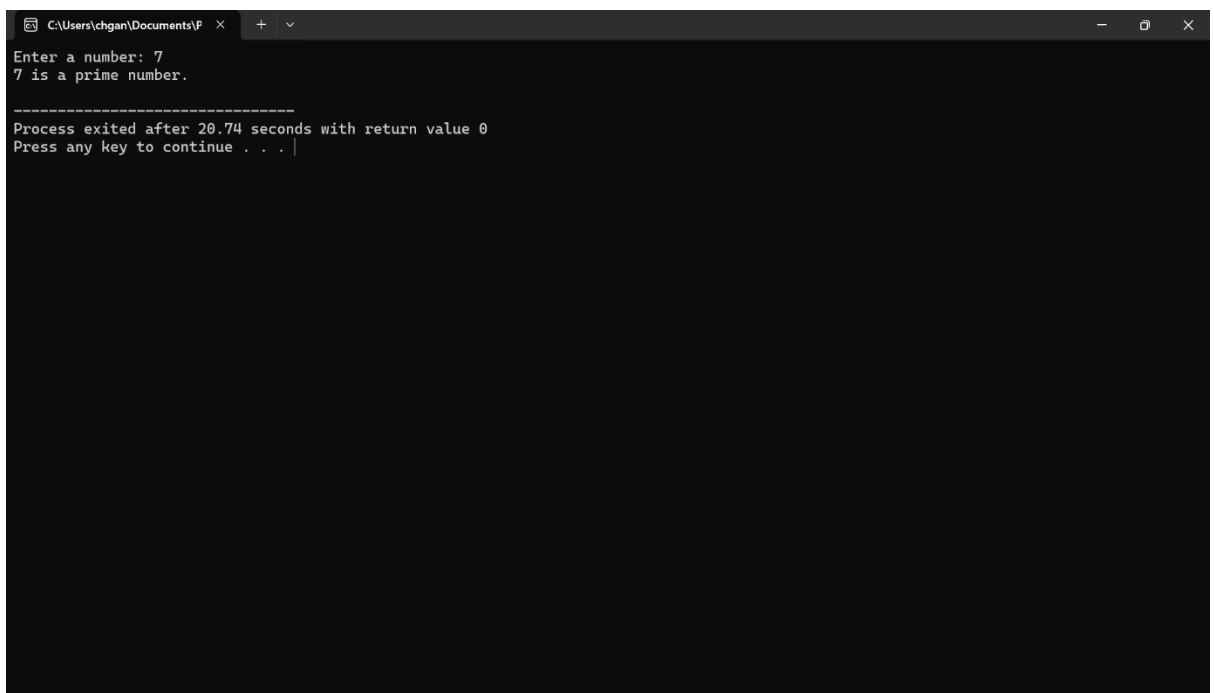
    if (num <= 1) {
        isPrime = 0;
    } else {
        for (int i = 2; i * i <= num; i++) {
            if (num % i == 0) {
                isPrime = 0;
                break;
            }
        }
    }

    if (isPrime)
        printf("%d is a prime number.\n", num);
    else
        printf("%d is not a prime number.\n", num);

    return 0;
}

```

OUTPUT:



```

C:\Users\chgan\Documents\F x + v
Enter a number: 7
7 is a prime number.

-----
Process exited after 20.74 seconds with return value 0
Press any key to continue . . .

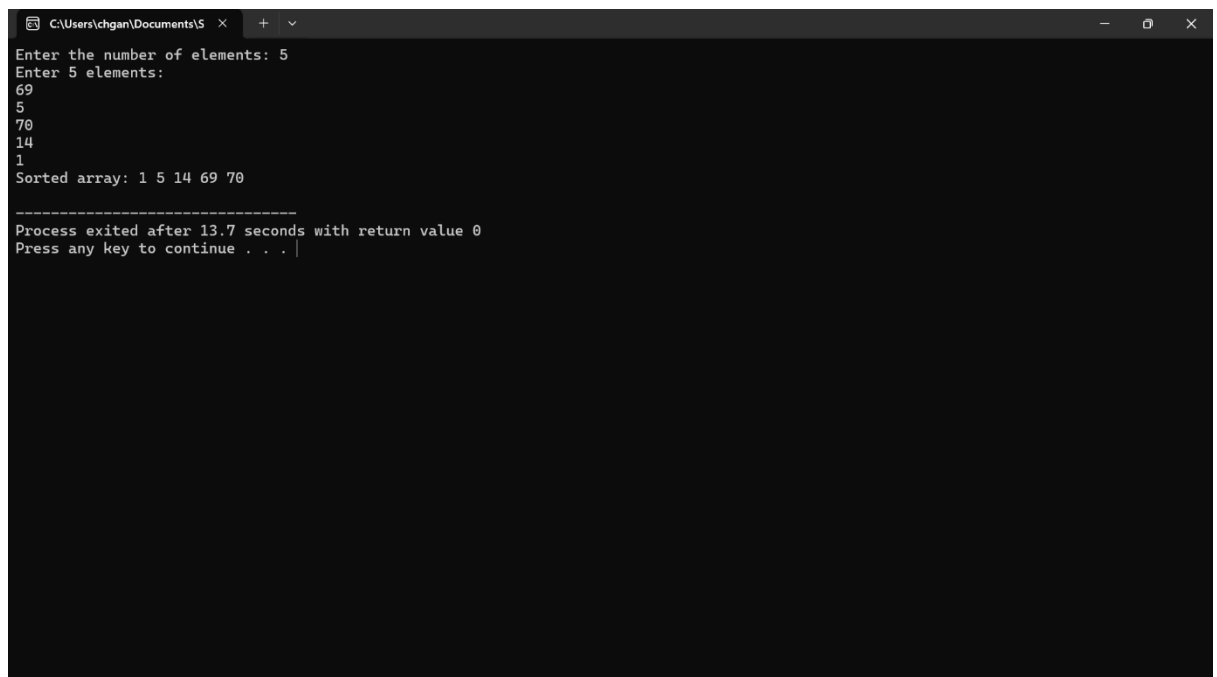
```

7. Program to perform Selection sort using C.

PROGRAM:

```
#include <stdio.h>
int main() {
    int n, i, j, min, temp;
    printf("Enter the number of elements: ");
    scanf("%d", &n);
    int arr[n];
    printf("Enter the elements:\n");
    for (i = 0; i < n - 1; i++) {
        min = i;
        for (j = i + 1; j < n; j++) {
            if (arr[j] < arr[min]) {
                min = j;
            }
        }
        temp = arr[i];
        arr[i] = arr[min];
        arr[min] = temp;
    }
    printf("Sorted array: ");
    for (i = 0; i < n; i++) {
        printf("%d ", arr[i]);
    }printf("\n");
}
```

OUTPUT:



```
C:\Users\chgan\Documents\S x + v
Enter the number of elements: 5
Enter 5 elements:
69
5
70
14
1
Sorted array: 1 5 14 69 70

-----
Process exited after 13.7 seconds with return value 0
Press any key to continue . . .
```

