1. Write a C Program to implement following operations

a) traverse

b) search

c) insert

d) delete

e)update

HelloWorld.cpp 42m3pb6zn NEW CPP RUN

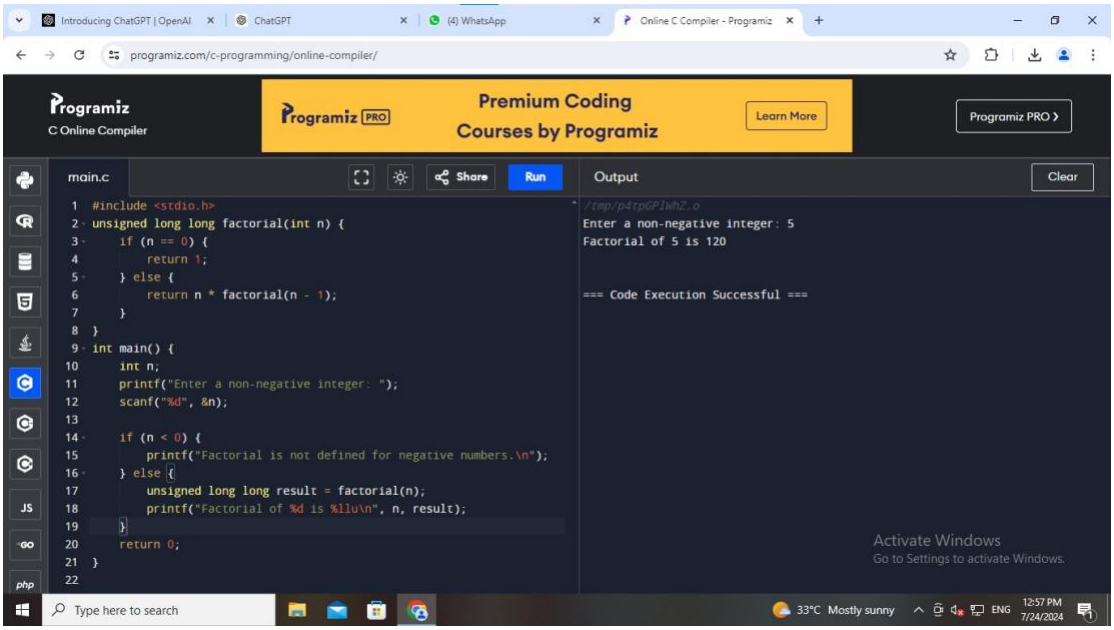
```c
#include <stdio.h>
#define MAX_SIZE 100
int main() {
    int array[MAX_SIZE];
    int size, i, pos, new_value;
printf("Enter size of the array: ");
    scanf("%d", &size);
printf("Enter elements of the array:\n");
    for (i = 0; i < size; i++) {
        scanf("%d", &array[i]);
    }
 printf("Enter the position of the element to update (0-indexed): ");
    scanf("%d", &pos);
if (pos < 0 || pos >= size) {
        printf("Invalid position!\n");
    } else {
        printf("Enter the new value: ");
        scanf("%d", &new_value);
array[pos] = new_value;
printf("Array after updating:\n");
        for (i = 0; i < size; i++) {
            printf("%d ", array[i]);
        }
        printf("\n");
    }

    return 0;
}
```

```
5
35789
4
```

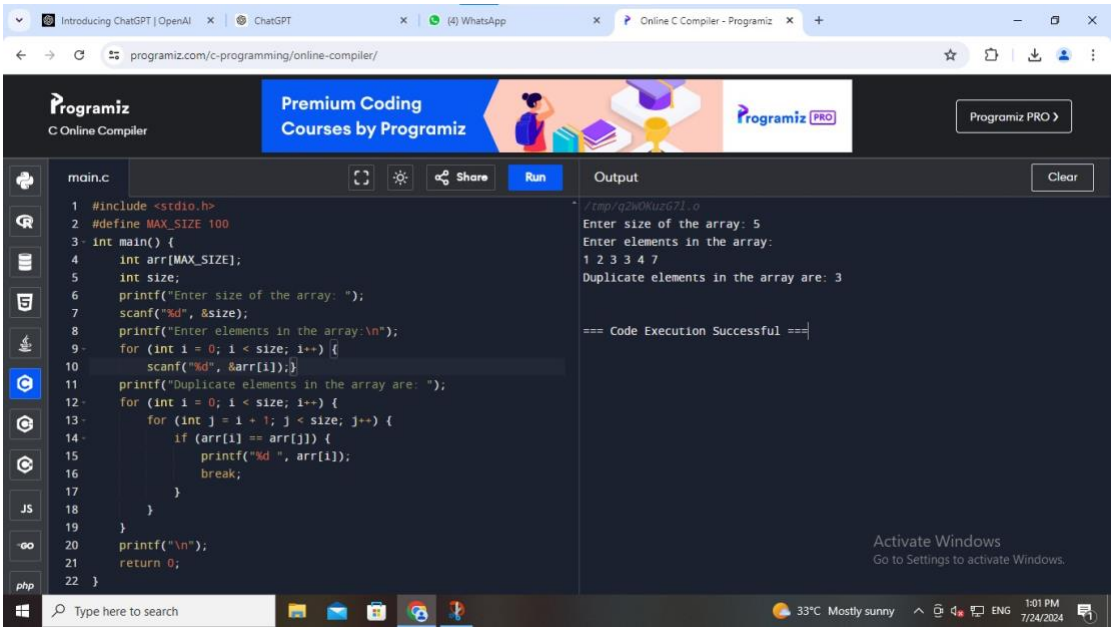
Output:

```
Enter size of the array: Enter elements of the array:
Enter the position of the element to update (0-indexed): Enter
3 5 7 8 0
```

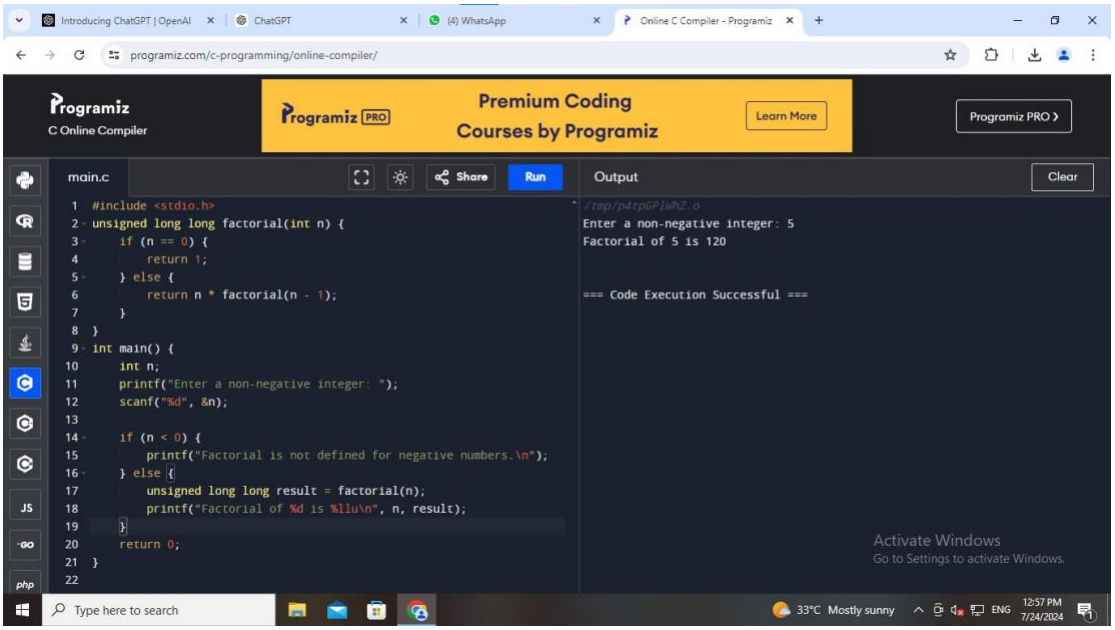
2. Writing a recursive function to calculate the factorial of a number.



3. Write a C Program to find duplicate element in an array



4. Write a C Program to find Max and Min from an array elements



5. Given a number n. the task is to print the Fibonacci series and the sum of the series using

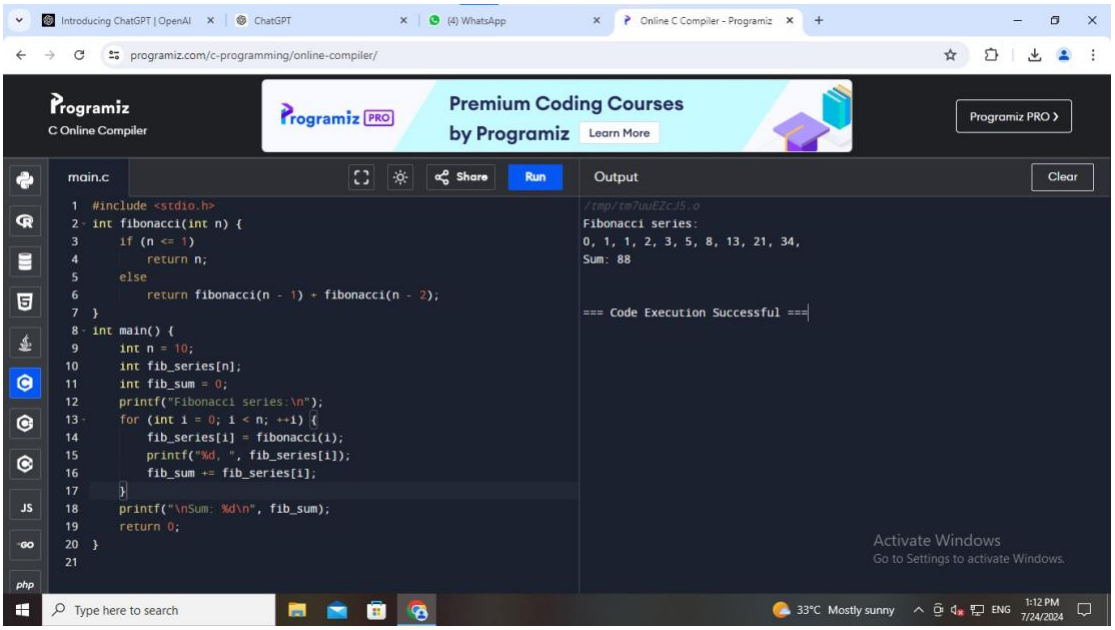
recursion.

input: n=10

output: Fibonacci series

0, 1, 1, 2, 3, 5, 8, 13, 21, 34

Sum: 88



6. You are given an array arr in increasing order. Find the element x from arr using binary

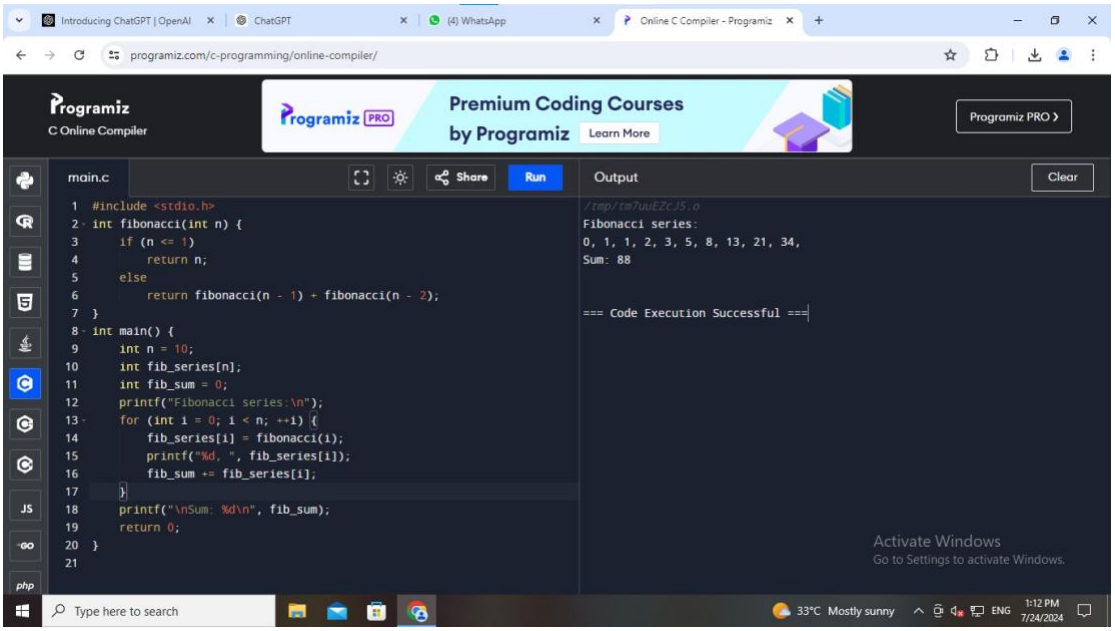
search.

Example 1: arr={ 1,5,6,7,9,10},X=6

Output : Element found at location 2

Example 2: arr={ 1,5,6,7,9,10},X=11

Output : Element not found at location 2



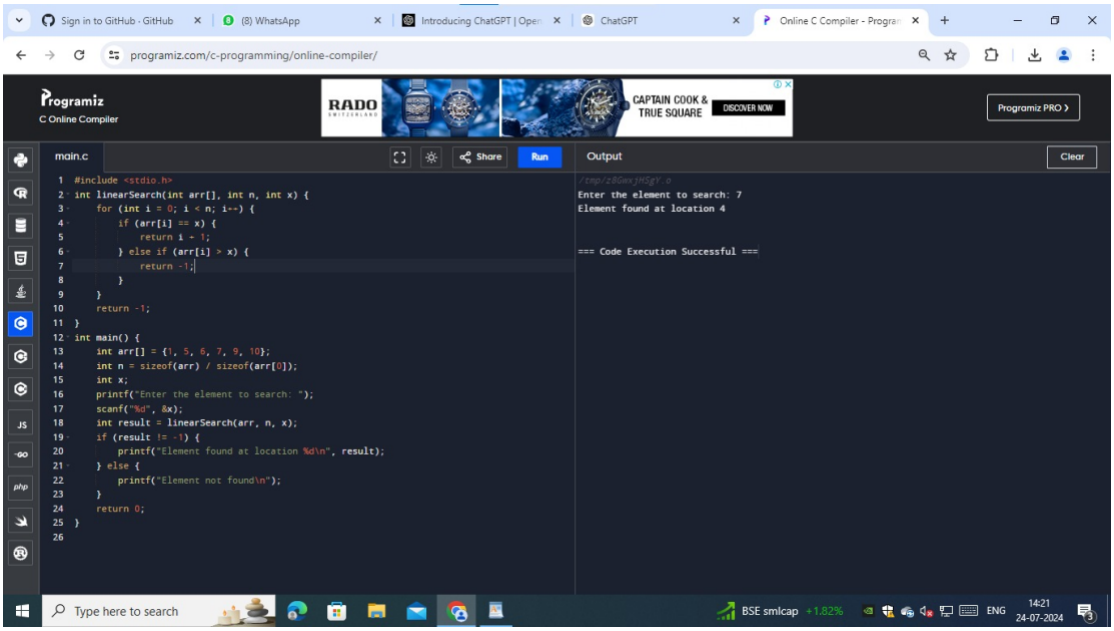
7. You are given an array arr in increasing order. Find the element x from arr using linear search.

Example 1: arr={ 1,5,6,7,9,10},X=6

Output : Element found at location 2

Example 2: arr={ 1,5,6,7,9,10},X=11

Output : Element not found at location 2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DISCOVER NOW
Programiz PRO
main.c
Share
Run
Output
Clear
#include <stdio.h>
int linearSearch(int arr[], int n, int x) {
for (int i = 0; i < n; i++) {
if (arr[i] == x) {
return i + 1;
} else if (arr[i] > x) {
return -1;
}
}
return -1;
}
int main() {
int arr[] = {1, 5, 6, 7, 9, 10};
int n = sizeof(arr) / sizeof(arr[0]);
int x;
printf("Enter the element to search: ");
scanf("%d", &x);
int result = linearSearch(arr, n, x);
if (result != -1) {
printf("Element found at location %d\n", result);
} else {
printf("Element not found\n");
}
return 0;
}
/tmp/z8GwxjHSgY.o
Enter the element to search: 7
Element found at location 4
=== Code Execution Successful ===
Type here to search
BSE smlcap +1.82%
ENG
14:21
24-07-2024