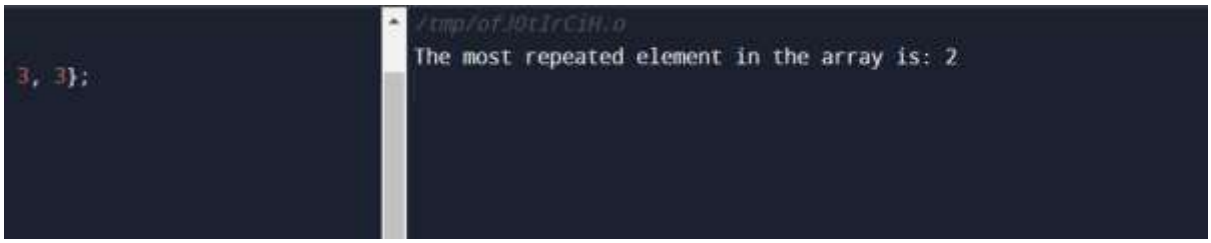
Shah Jahan khan (469192)

Manual 8 hometasks

1. Take an array and find the most repeated element in that array.

```
#include <iostream>
using namespace std;
int main() {
   int arr[] = {1, 2, 3, 2, 2, 3, 4, 5, 2, 2, 3, 3, 3};
   int n = sizeof(arr) / sizeof(arr[0]);

   int mostRepeated = arr[0];
   int maxCount = 0;

   for (int i = 0; i < n; ++i) {
      int currentCount = 1;
      for (int j = i + 1; j < n; ++j) {
         if (arr[i] == arr[j]) {
            ++currentCount;
         }
      }
      if (currentCount > maxCount) {
         maxCount = currentCount;
         mostRepeated = arr[i];
      }
   }

   cout << "The most repeated element in the array is: " << mostRepeated << endl;

   return 0;
```

}



Let’s say an array is a[8] = {13, 15, 17, 9, 99, 77, 65, 43}. Find largest and smallest element.

```
#include <iostream>
using namespace std;
int main() {
   int a[8] = {13, 15, 17, 9, 99, 77, 65, 43};
   int n = sizeof(a) / sizeof(a[0]);


   int largest = a[0];
   int smallest = a[0];


   for (int i = 1; i < n; ++i) {
      if (a[i] > largest) {
         largest = a[i];
      }
      if (a[i] < smallest) {
         smallest = a[i];
      }
   }

   cout << "The largest element in the array is: " << largest << endl;
   cout << "The smallest element in the array is: " << smallest << endl;
```

```
    return 0;
}
```

```
/tmp/ofJOtIrCiH.o
The largest element in the array is: 99
The smallest element in the array is: 9
```

Develop a program that takes 5 array elements from user. Swap position [2] element with position [4] element.

```
#include <iostream>

int main() {
    int arr[5];

    // Taking 5 array elements as input from the user
    std::cout << "Enter 5 elements for the array: " << std::endl;
    for (int i = 0; i < 5; ++i) {
        std::cout << "Enter element " << i + 1 << ": ";
        std::cin >> arr[i];
    }

    // Displaying the original array
    std::cout << "Original array: ";
    for (int i = 0; i < 5; ++i) {
        std::cout << arr[i] << " ";
    }
    std::cout << std::endl;

    // Swapping elements at positions 2 and 4 (0-indexed)
    if (2 < 5 && 4 < 5) { // Check if positions are within array bounds
        int temp = arr[2];
```

```
    arr[2] = arr[4];
    arr[4] = temp;

    // Displaying the array after swapping
    std::cout << "Array after swapping elements at positions 2 and 4: ";
    for (int i = 0; i < 5; ++i) {
        std::cout << arr[i] << " ";
    }
    std::cout << std::endl;
} else {
    std::cout << "Positions are out of array bounds.
```

```
/tmp/ofJ0tIrCiH.o
Enter 5 elements for the array:
Enter element 1: 3
Enter element 2: 2
Enter element 3: 4
Enter element 4: 5
Enter element 5: 6
Original array: 3 2 4 5 6
Array after swapping elements at positions 2 and 4: 3 2 6 5 4
```