**Home Task 8**

**Fundamentals of Programming**

Instructor: Sir Affan

Name: Syed Muhammad Ali Akbar

CMS: 477723

**Code 1:**

#include <iostream>

using namespace std;

int main() {

    int array[8];

    cout << "Enter any 8 numbers" << endl;

    for (int i = 0; i < 8; i++) {

        cin >> array[i];

    }

    cout<<endl;

    int max\_freq = 1;

    for (int i = 0; i < 8; i++) {

        int element\_1 = array[i];

        int freq = 1;

        for (int j = i + 1; j < 8; j++) {

            if (array[j] == element\_1) {

                freq++;

            }

        }

        if (freq > max\_freq) {

            max\_freq = freq;

            cout << "Most repeated element(s) is/are: " << element\_1 << " ";

        } else if (freq == max\_freq) {

            cout << element\_1 << " ";

        }

    }

    cout << endl;

    return 0;

}

**Output 1:**

**A computer screen with white text

Description automatically generated**

**Code 2:**

//Task 2

#include<bits/stdc++.h>

using namespace std;

int main()

{

    int arr[8]={13,15,17,9,99,77,65,43};

    int min = arr[0];

    for (int i = 1; i < 8; i++)

    {

        if(arr[i]<min)

        {

            min = arr[i];

        }

    }

    int max = arr[0];

    for (int i = 1; i < 8; i++)

    {

        if(arr[i]>max)

        {

            max = arr[i];

        }

    }

    cout<<"Smallest element is "<<min<<endl;

    cout<<"Largest element is "<<max<<endl;

    return 0;

}

**Output 2:**

**A screen shot of a computer code

Description automatically generated**

**Code 3:**

//Task 3

#include<bits/stdc++.h>

using namespace std;

int main()

{

    int arr[5];

    cout<<"Enter any 5 numbers"<<endl;

    for (int i = 0; i < 5; i++)

    {

        cin>>arr[i];

    }

    cout<<"Original Array: ";

    for (int i = 0; i < 5; i++)

    {

        cout<<arr[i];

    }

    cout<<endl;

    int temp = arr[4];

    arr[4]=arr[2];

    arr[2] = temp;

    cout<<"New Array: ";

    for (int i = 0; i < 5; i++)

    {

        cout<<arr[i];

    }

    return 0;

}

**Output 3:**

