

Fop Lab Home Task 8

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Section: B

TASK 1

```
#include <bits/stdc++.h>
using namespace std;

int main()
{
    int len, sum, large;
    bool check;
    string record = "";
    cout<<"Enter the size of array: ";
    cin>>len;
    float nums[len];

    // Get array elements
    cout<<"Enter the elements of array: ";
    for (int i=0; i<len; i++) {
        cin>>nums[i];
    }

    // Making a string which shows the number of times each value occurs in array
    for (int i=0; i<len; i++){

        check = false;
        for (int j=0; j<i; j++) {
            if (nums[i]==nums[j])
                check=true;
        }
        if (check)
            continue;

        sum=0;
        for (int j=0; j<len; j++) {
            if (nums[i]==nums[j])
                sum++;
        }

        record += to_string((int)nums[i])+to_string(sum);

    }

    // Determine the values with most occurrences
    large = 0;
    for (int i=1; i<record.length(); i+=2) {
        if (((int)record[i]-48)>large)
            large = (int)record[i]-48;
    }

    // Printing results
    cout<<"Most repeated elements are: ";
    for (int i=1; i<record.length(); i+=2) {
        if (large == ((int)record[i]-48))
            cout<<record[i-1]<<" ";
    }
    return 0;
}
```

Output

```
Enter the size of array: 6
Enter the elements of array: 1 2 2 4 4 6
Most repeated elements are: 2 4
Process returned 0 (0x0)   execution time : 15.834 s
Press any key to continue.
```

TASK 2

```
#include <bits/stdc++.h>
using namespace std;

int main()
{
    int len=8, a[len] = {13, 15, 17, 9, 99, 77, 65, 43};
    int larger, smaller;

    larger = a[1];
    smaller = a[1];
    for (int i=0; i<len; i++) {
        if (larger < a[i])
            larger = a[i];
        if (smaller > a[i])
            smaller = a[i];
    }

    cout<<"Largest element is: "<<larger<<endl;
    cout<<"Smallest element is: "<<smaller;
    return 0;
}
/* Home Task 3
```

```
"C:\Users\Hp\Downloads\Documents\NUST Content\Semester 1\Computer Systems & Programm
Largest element is: 99
Smallest element is: 9
Process returned 0 (0x0)   execution time : 0.069 s
Press any key to continue.
```

TASK 3

```
#include <bits/stdc++.h>
using namespace std;

int main()
{
    int len=5, nums[len], temp;
    for (int i=0; i<len; i++) {
        cout<<"Enter element "<<i+1<<": ";
        cin>>nums[i];
    }

    temp = nums[2];
    nums[2] = nums[4];
    nums[4] = temp;

    cout<<"Swapped array is: {";
    for (int i=0; i<len; i++) {
        cout<<nums[i];
        if (i==len-1)
            continue;
        cout<<",";
    }
    cout<<"}";
    return 0;
}
/* Home Task 2
```

```
Select "C:\Users\Hp\Downloads\Documents\NUST Content\Semester 1\Computer Systems & Programming Lab\week 10\week10\bin...
Enter element 1: 2
Enter element 2: 3
Enter element 3: 4
Enter element 4: 5
Enter element 5: 6
Swapped array is: {2, 3, 6, 5, 4}
Process returned 0 (0x0)   execution time : 10.908 s
Press any key to continue.
```