NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING

ENGINEERING

CS-114 - Fundamental of Programing

LAB MANUAL # 8 (Home Task)

ME -15 (C)

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Take an array and find the most repeated element in that array:

Code & Output:

```cpp
#include<bits/stdc++.h>
using namespace std;
int main(){
    int len,tochk=0,num;
    cout<<"Enter the length of array ";
    cin>>len;
    int arr[len]={};
    for(int i=0;i<len;i++){
        cout<<"Enter element of array ";
        cin>>arr[i];
    }
    for(int j=0;j<len;j++){
        int rep=1;
        for(int k=0;k<len;k++){
            if(arr[k]==arr[j]){
                rep++;
            }
        }
        if(rep>tochk){
            tochk=rep;
            num=arr[j];
        }
    }
    cout<<"the most repeated element is "<<num;
    return 0;
}
```

```
Enter the length of array 9
Enter element of array 78
Enter element of array 90
Enter element of array 34
Enter element of array 90
Enter element of array 56
Enter element of array 90
Enter element of array 34
Enter element of array 90
Enter element of array 78
the most repeated element is 90
-------------------------------
Process exited after 22.81 seconds with return value 0
Press any key to continue . . .
```

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

Code & Output:

```cpp
#include <bits/stdc++.h>
using namespace std;
int main(){
    int a=0,b=0,x,y;
    int arr [8] = {13 , 15 , 17 , 9 , 99 , 77, 65 , 43};
    for(int i=0;i<8; i++){
        a=0,b=0;
        for(int j=0; j<8;j++){
            if(i==j)
            {
                continue;
            }
            if(arr[i]<arr[j]){
                a++;
            }
            else if(arr[i]>arr[j]){
                b++;
            }
        }
        if(a==7){
            x=arr[i];
        }
    }
    if(b==7){
        y=arr[i];
    }
    cout<<"The smallest number is "<<x<<endl;
    cout<<"The largest number is "<<y<<endl;
    return 0;
}
```

```
The smallest number is 9
The largest number is 99
-------------------------------
Process exited after 0.2919 seconds with return value 0
Press any key to continue . . .
```

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

Code & Output:

```cpp
#include <bits/stdc++.h>
using namespace std;
int main() {
    int x[5], temp;
    cout << "Enter 5 elements: ";
    for(int i=0; i<5; i++) {
        cin >> x[i];
    }
    temp = x[1];
    x[1] = x[3];
    x[3] = temp;
    cout<<"New array is ";
    for(int i=0; i<5; i++) {
        cout << x[i] << " ";
    }
    return 0;
}
```

```
Enter 5 elements: 5
6
3
7
8
New array is 5 7 3 6 8
---------------------------------
Process exited after 9.001 seconds with return value 0
Press any key to continue . . .
```