School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering

CS-114 - Fundamental of Programing

Home task # 08

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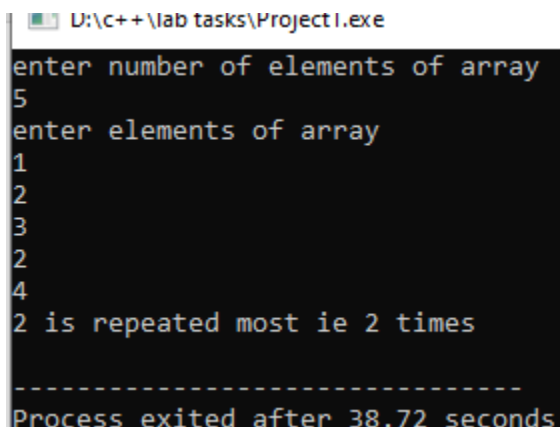**CMS ID:** _____464185_____

DATE:

05/12/2023

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

Code

```cpp
int main () {
    int n ,  maxapp=0, maxval=0 ;
    int a[n]={} ;
    cout<<"enter number of elements of array"<<endl;
    cin>>n;
    cout<<"enter elements of array"<<endl;
    for (int i=0;i<n;i++) {
        cin>>a[i];

    }
        for (int i=0;i<n;i++) {
            int repeat=0;
                for (int j=0;j<n;j++) {
                    if (a[j]==a[i]) {
                        repeat++;
                    }
                }
                if ( repeat > maxapp) {
                    maxapp=repeat;
                    maxval=a[i];
                }
        }
        cout<<maxval<<" is repeated most ie "<<maxapp<<" times" <<endl;
            return 0;
    }
```

Output

```
D:\c++\lab tasks\Project1.exe

enter number of elements of array
5
enter elements of array
1
2
3
2
4
2 is repeated most ie 2 times

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Process exited after 38.72 seconds
```

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

Code

```
] {
    int n,min=INT_MAX,max=INT_MIN;
    int a[n]={};
    cout<<"enter no of elements of array"<<endl;
    cin>>n;
    cout<<"enter elements of array"<<endl;
] for (int i=0;i<n;i++) {
        cin>>a[i];

- }
] for(int i=0;i<n;i++) {
]       if (a[i]>max) {
        max=a[i];
-       }
]           if (a[i]<min) {
        min=a[i];
-       }
- }
    cout<<"so min value is "<<min<<endl;
    cout<<"so max value is "<<max<<endl;
    return 0;
- }}
```
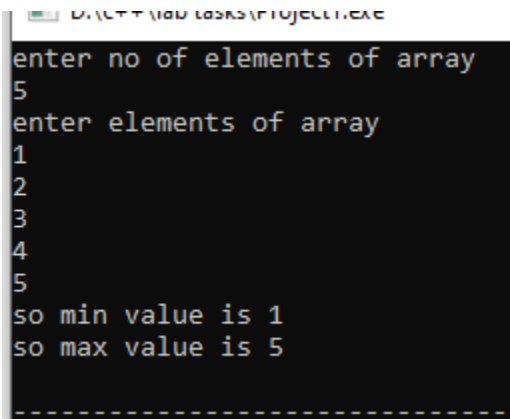
Output

```
D:\C++\lab tasks\Project1.exe

enter no of elements of array
5
enter elements of array
1
2
3
4
5
so min value is 1
so max value is 5

--------------------------------
```

3. Develop a program that takes 5 array elements from user. Swap position [2] element with position [4] element. (Hint: Use the same method of swapping values we used for variables using a third variable temp).

Code

```
{
    int n;
    int a[5]={};

cout<<"enter elements of array"<<endl;
for (int i=0;i<5;i++) {
    cin>>a[i]; }
    int temp = a[1];
    a[1]=a[3];
    a[3]=temp;
    cout<<"so the new array is "<<endl;
    for (int i=0; i<5;i++) {
        cout<<a[i];
    }
    return 0;


}}
```

Output

```
enter elements of array
1
2
3
4
5
so the new array is
1
4
3
2
5

- - - - - - - - - - - - - - - - - - - - - - - -
```