CSS-114- FUNDAMENTALS OF PROGRAMMING

LAB MANUAL #8

HOME TASK

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Home Task:

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

CODE:

```
#include<iostream>
using namespace std;
int main(){
    cout<<"HOME TASK 3"<<endl; //print the repeated elements in an array
    int n;
    int arr[n];
    cout<<"Enter the number of elements of the array:"<<endl; //input an array and it elements from the user
    cin>>n;
    cout<<"Enter the Elements:"<<endl;
    for(int i=0;i<n;i++){
      cin>>arr[i]; }
      cout<<"The Recurring Elements:"<<endl; //using nested loops, check if an element is repeated in the elements that follow it, and if so print that
      for(int i=0;i<n;i++){                                                                                                          //element
        for(int j=i+1;j<n;j++){
        if(arr[i]==arr[j]){
         cout<<arr[j]<<" " ;
         break;
         } } } return 0;
}
```

RESULT:

```
HOME TASK 3
Enter the number of elements of the array:
6
Enter the Elements:
1
4
2
5
2
6
The Recurring Elements:
2
--------------------------------
Process exited after 6.543 seconds with return value 0
Press any key to continue . . .
```

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

CODE:

```
#include<iostream>
using namespace std;
int main(){
    cout<<"HOME TASK 2:"<<endl; //print the smallest and largest element of an integer array
    cout<<"The Elements of the array are:{13, 15, 17, 9, 99, 77, 65, 43}."<<endl;
    int x,temp;
    int arr[8]={13, 15, 17, 9, 99, 77, 65, 43};
    for(x=1;x<8;x++){
        for(int i=0;i<8-x;i++){ //sort the array using Bubbble sort
            if(arr[i]>arr[i+1]){
                temp = arr[i];
                arr[i]=arr[i+1];
                arr[i+1]=temp;
            }
        }
    }   cout<<"The Smallest Element:"<<endl;   //for the sorted array, simply print the first and last element
        for(int i=0;i<1;i++){
        cout<<arr[i]; }
        cout<<endl;
         cout<<"The Largest Element:"<<endl;
        for(int i=7;i<8;i++){
        cout<<arr[i]; }
 return 0;
}
```

RESULT:

```
HOME TASK 2:
The Elements of the array are:{13, 15, 17, 9, 99, 77, 65, 43}.
The Smallest Element:
9
The Largest Element:
99
--------------------------------
Process exited after 0.08831 seconds with return value 0
Press any key to continue . . .
```

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:

```
#include<iostream>
using namespace std;
int main(){
    cout<<"HOME TASK 3"<<endl; //swapping the 2nd and 4th positions of a 5 integer array
    int temp,arr[5];
    cout<<"Enter the five elements of the array:"<<endl;
    for(int i=0;i<5;i++){
        cin>>arr[i];
    }
    for(int i=1;i<2;i++){   //simply create a nested loop system which selects only the 2nd and 4th element, and using an intermediate integer, swap
        for(int j=3;j<4;j++){                                                    //both elements
            temp=arr[i];
            arr[i]=arr[j];
            arr[j]=temp;
        } cout<<"The New Array is:"<<endl;
    } for(int i=0;i<5;i++){
        cout<<" "<<arr[i];
    } return 0;
}
```

RESULT:

```
HOME TASK 3
Enter the five elements of the array:
5
6
2
3
1
The New Array is:
 5 3 2 6 1
--------------------------------
Process exited after 7.574 seconds with return value 0
Press any key to continue . . .
```