Instructions: Please read carefully

- Please rename this file as only your ID number **(e.g. 18-*****-1.doc or 18-*****-1.pdf).**
- Submit the file before **11:00am on 01/02/2021** in the Portal Lab Performance section labeled **Lab task 2.** **If you cannot complete the full task, do not worry. Just upload what you have completed.**

Name:- Amit Podder

ID:- 20-42273-1

Section:- [F]

1. Initialize TWO integer arrays of different sizes. Merge the input arrays and create a new array. Then print the new array in reverse order.

For example,
Array_1 = **{10,20,30,40,50}**
Array_2 = **{1,2,3,4,5,6,7,8}**
Output: **8 7 6 5 4 3 2 1 50 40 30 20 10**

Your code here:

```
#include <iostream>
using namespace std;
int main()
{
 int a[5]={10,20,30,40,50};
 int b[8]={1,2,3,4,5,6,7,8};
 for(int n=0;n<=8;n++)
 {
 cout<<a[n]<<""<<endl;
 cout<<b[n]<<""<<endl;
 }
 cout<<"Array reverse:"<<endl;
 for(int i=8;i>=0;i--)
 {
 cout<<a[i]<<""<<endl;
 cout<<b[i]<<""<<endl;
 }
 return 0;
}
```

Your whole Screenshot here: (Console Output):

" Error "

2. Initialize TWO integer arrays **A** and **B** of different sizes. Make a new array with the common elements between **A** and **B**. Print the new array element(s). If there is no common element, output "No common element!".

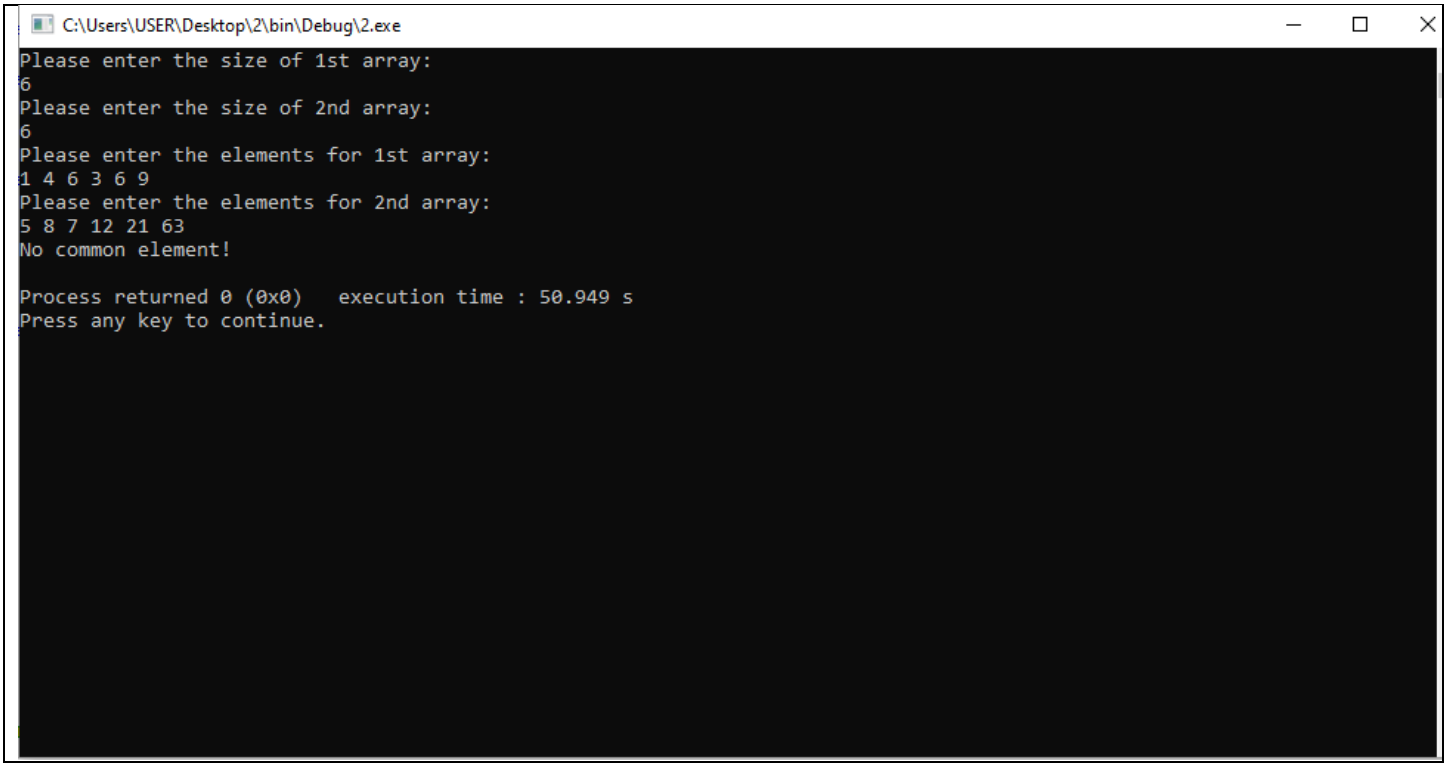
For example,
Scenario 1:
Array_1 = **{1,4,6,3,6,9}**
Array_2 = **{5,3,7,1,2,6}**
Output: **1 6 3**
Scenario 2:

Array_1 = **{1,4,6,3,6,9}**
Array_2 = **{5,8,7,12,21,63}**
Output: **No common element!**

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
   int a,b;

   cout<<"Please enter the size of 1st array: "<<endl;
   cin>>a;
   cout<<"Please enter the size of 2nd array: "<<endl;
   cin>>b;

   int arr1[a], arr2[b];
   cout<<"Please enter the elements for 1st array: "<<endl;

   for(int i=0;i<a;i++)
   {
      cin>>arr1[i];
   }
   cout<<"Please enter the elements for 2nd array: "<<endl;
   for(int j=0;j<b;j++)
   {
      cin>>arr2[j];
   }
   int counter=0;

   for(int i=0;i<a;i++)
   {
   for(int j=0;j<b;j++)
   {

   if(arr1[i]==arr2[j])

   {
    counter++;
    cout<<arr1[i]<<" "<<endl;
   }
   }
   }
   if(counter==0)
     {
      cout<<"No common element!"<<endl;
     }
   return 0;
}
```

Your whole Screenshot here: (Console Output):



3. Initialize an array. Size should be more than FIVE. Write you program to change the array in such a way so that there cannot be any duplicate element in the array anymore. Print the changed array. If the initialized array already had no duplicate elements from the beginning, output a message saying "Array already unique!";

For example,
Scenario 1:
Array_1 = **{1,4,6,3,6,9,1}**
Output: **1 4 6 3 9**
Scenario 2:
Array_1 = **{1,4,5,3,6,9}**
Output: **Array already unique!**

Your code here:

Your whole Screenshot here: (Console Output):

4. Initialize an integer array **A** of size 10. Take an integer as input and print how many times that integer occurs in **A**.

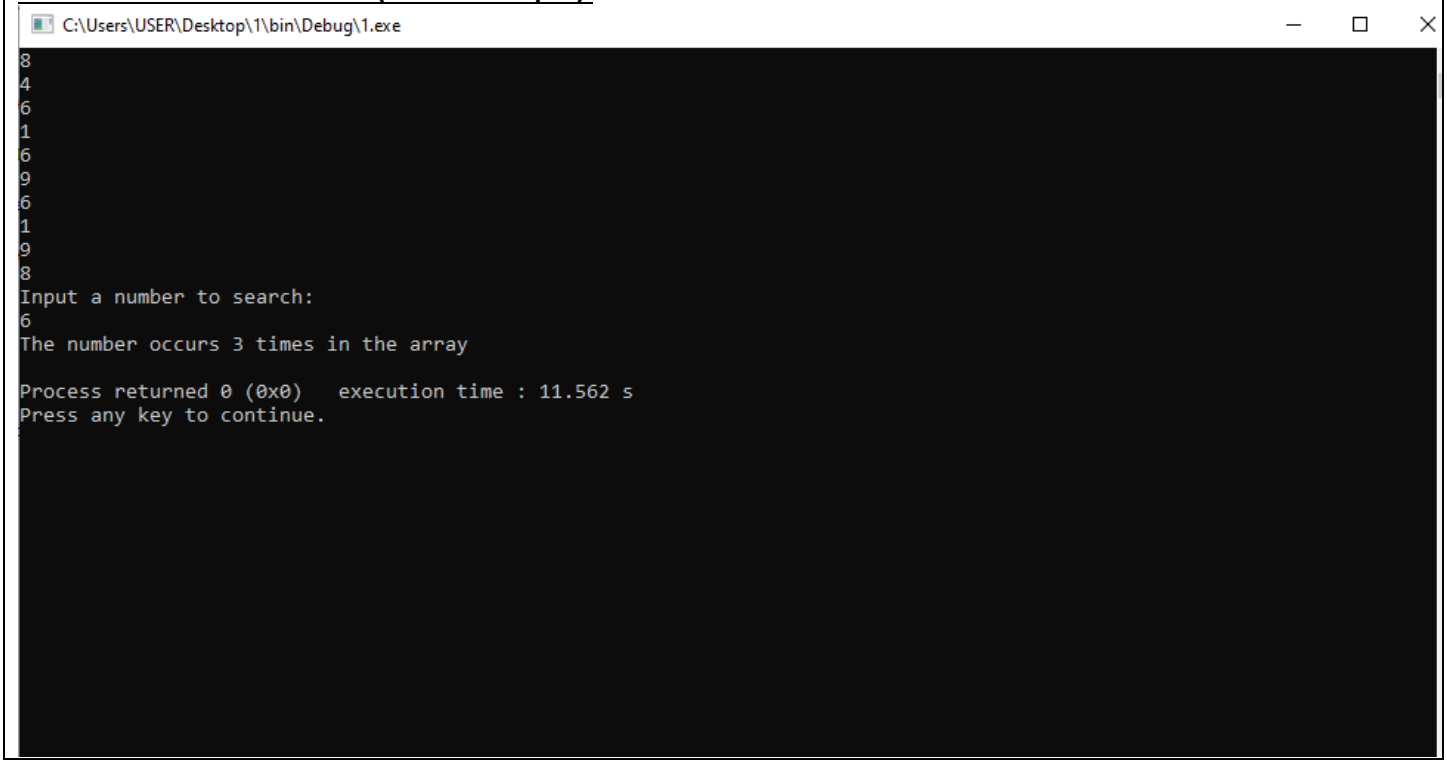
For example,
Array_1 = **{8,4,6,1,6,9,6,1,9,8}**
Output:
Input a number to search: 6
The number occurs 3 times in the array

Your code here:

```
#include <iostream>
```

```
using namespace std;

int main()
{
   int a[10]={8,4,6,1,6,9,6,1,9,8};
   int num;

   int count=0;
   for(int i=0;i<10;i++)
   {
      cout<<a[i]<<endl;
   }
   cout<<"Input a number to search:"<<endl;
   cin>>num;
   for(int n=0;n<10;n++)
   {
      if(a[n]==num)
      {
         count++;
      }
   }
   cout<<"The number occurs "<<count<<" times in the array"<<endl;
   return 0;
}
```

Your whole Screenshot here: (Console Output):



5. Initialize an integer array of size 10. Print the number of time each element occurs in the array.

For example,

Array_1 = **{8,4,6,1,6,9,6,1,9,8}**

Output:

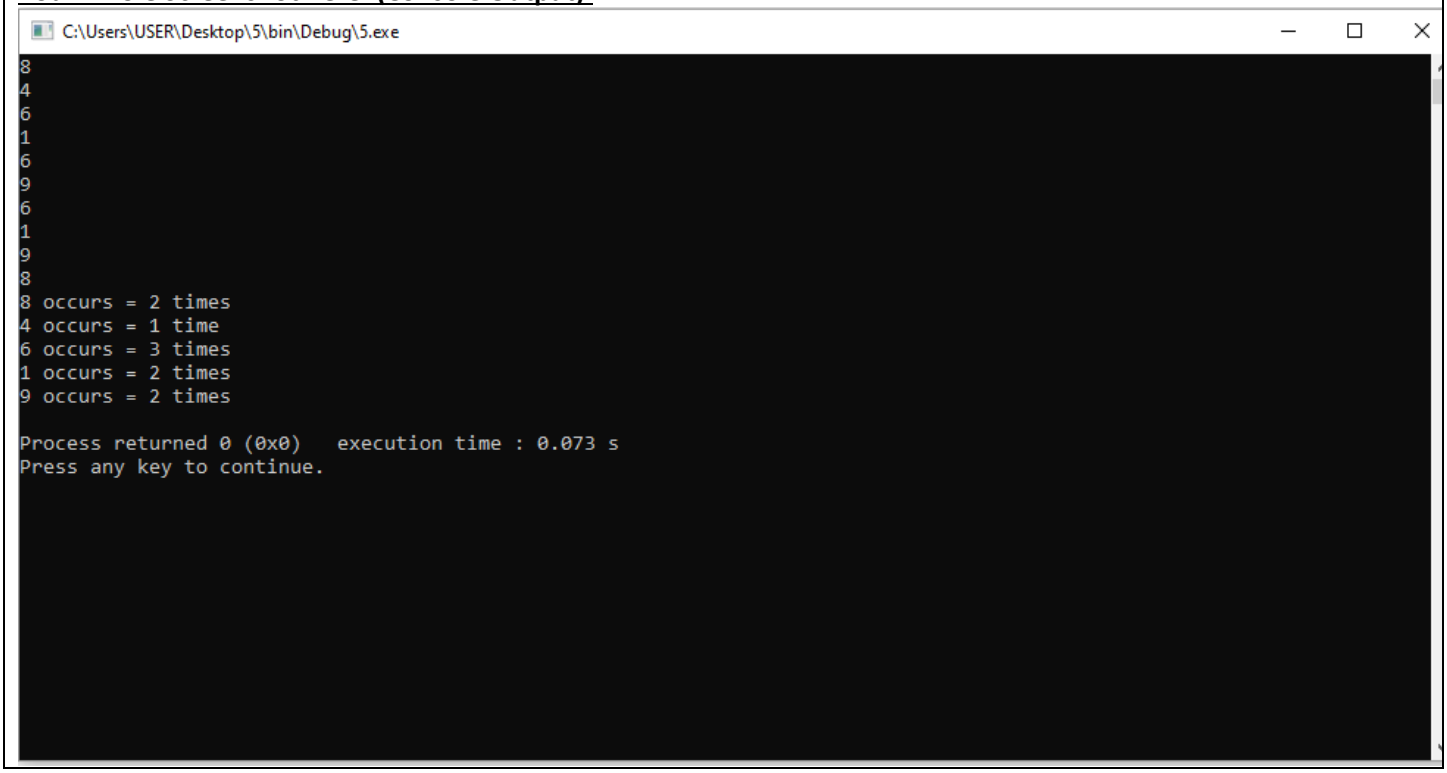
8 occurs = 2 times
4 occurs = 1 time
6 occurs = 3 times
1 occurs = 2 times
9 occurs = 2 times

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
   int a[10]={8,4,6,1,6,9,6,1,9,8};
   int num;

   int count8=0;
   int count4=0;
   int count6=0;
   int count1=0;
   int count9=0;

   for(int i=0;i<10;i++)
   {
      cout<<a[i]<<endl;
   }
   for(int n=0;n<10;n++)
   {
      if(a[n]==8)
      {
         count8++;
      }
      if(a[n]==4)
      {
         count4++;
      }
      if(a[n]==6)
      {
         count6++;
      }
      if(a[n]==1)
      {
         count1++;
      }
      if(a[n]==9)
      {
         count9++;
      }
   }
   cout<<"8 occurs = "<<count8<<" times "<<endl;
   cout<<"4 occurs = "<<count4<<" time "<<endl;
   cout<<"6 occurs = "<<count6<<" times "<<endl;
   cout<<"1 occurs = "<<count1<<" times "<<endl;
```

```
    cout<<"9 occurs = "<<count9<<" times "<<endl;

    return 0;
}
```

Your whole Screenshot here: (Console Output):



6. Initialize a matrix of minimum 3x4 (row x column) size. Output its transpose matrix.

For example,

Matrix_1:

1 6 7 9
2 4 8 5
3 1 9 4

Output:

1 2 3
6 4 1
7 8 9
9 5 4

Your code here:

```
#include<iostream>

using namespace std;

int main()
{
  int transpose[10][10], r=3, c=4, i, j;
  int a[4][4] = { {1,6,7,9} , {2,4,8,5} , {3,1,9,4} };

  cout<<"The Matrix is:"<<endl;
  for(i=0;i<r;++i)
  {
```

```
    for(j=0;j<c;++j)
    cout<<a[i][j]<<" ";
    cout<<endl;
  }
  cout<<endl;

  for(i=0;i<r;++i)
  for(j=0;j<c;++j)
  {
    transpose[j][i] = a[i][j];
  }
  cout<<"The Transpose of the Matrix is:"<<endl;
  for(i=0;i<c;++i)
  {
    for(j=0;j<r;++j)
    cout<<transpose[i][j]<<" ";
    cout<<endl;
  }
  return 0;
}
```

Your whole Screenshot here: (Console Output):