WORKSHEET 1

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Branch: CSE **Section/Group:720A**

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Subject Name: **Subject Code:**

1. **Aim**: Write a menu-driven program that implements the following operations using separate functions on a linear array.
   1) To display the elements of the linear array.
   2) To insert a new element at the end as well as the given position.
   3) To delete an element from a given array whose value is given.
   4) To delete a repeating element from a given array from all position.
   5) Exit.

2. **Source Code:**

```
#include <iostream>
using namespace std;
int main()
{
   int a[100],n,i,size,position,value,search=0,index,j;
cout<<" enter size of array :";
cin>>size;
   cout<<"enter elemts of array:";
  for(i=0;i<size-1;i++)
   {
```

```
      // cout<<"enter elemts of array:";
       cin>>a[i];
   }
   cout<<"choose an option from the following 1 display original array. 2 insert element at any given position. 3 delete an element from an array 4 delete an element from all position of array.  5 exit";
  cin>>n;
  switch(n)
 {
     case 1://original array
      cout<<"original array is :";
     for(i=0;i<size;i++)
    {  cout<<a[i]<<" ";
}
break;
      case 2://inserting element at any position
   cout<<"enter position to insert element in array:";
      cin>>position;
      cout<<"enter element to insert";
      cin>>value;
      cout<<"original array is :";
      for(i=0;i<size;i++)
    {  cout<<a[i];
}
```

```
  for(i=size-1;i>=position-1;i--)
  a[i+1]=a[i];
  a[position-1]=value;
  cout<<"updated array:";
  for(i=0;i<10;i++)
  cout<<a[i]<<" ";
  break;
case 3://deeleting any element
        cout<<"enter element to delete";
         cin>>value;
           cout<<"original array is :";
         for(i=0;i<size;i++)
       {  cout<<a[i]<<"  ";
  }
  //searching for the element
  for(i=0;i<size;i++)
  {if(a[i]==value)
  {
     search=1;
     break;
  }

  }
  if(search=0)
```

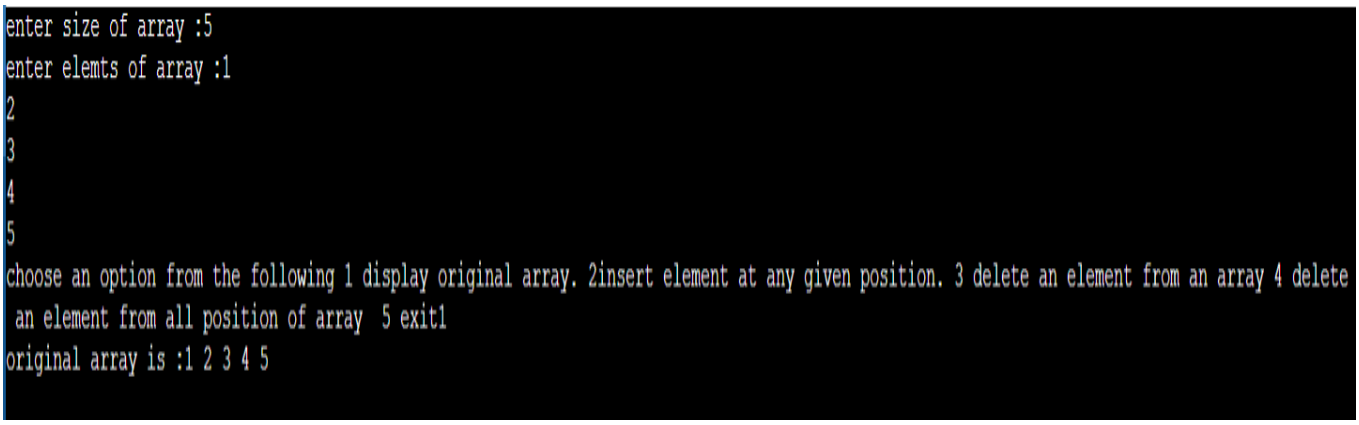
```
cout<<"element not found"<<endl;
else
{
   for(;i<size-1;i++)
   a[i]=a[i+1];
   cout<<"updated array:";
for(i=0;i<size-1;i++)
cout<<a[i]<<" ";
}
break;
case 4:
//deleting any element  to remove from all position
      cout<<"enter element to delete";
       cin>>value;
          cout<<"original array is :";
       for(i=0;i<size-1;i++)
     {  cout<<a[i];
}

for(i=0;i<index;i++)
{if(a[i]==value)
{
  for (j=i;j<index-1;j++)
  a[j]=a[j+1];
```

```
  index--;
  i--;
}}
cout<<"updated array";
for(i=0;i<index;i++)
cout<<a[i]<<"  ";
break;
case 5:
cout<<"exit";
break;
default:
cout<<"progrram failed ! :)"<<endl<<"due to wrong option selection";
}
   return 0;
}
```

3. Screenshot of Outputs:

1) Output to display original array :



2) Output to insert element in array :

```
enter size of array :5
enter elemts of array :1
2
3
4
5
choose an option from the following 1 display original array. 2insert element at any given position. 3 delete an element from an array 4 delete
 an element from all position of array  5 exit2
enter position to insert element in array :3
enter element to insert :
2
```

3)output for deleting an element :

```
enter size of array :5
enter elemts of array :1
2
2
3
3
choose an option from the following 1 display original array. 2insert element at any given position. 3 delete an element from an array 4 delete
 an element from all position of array  5 exit3
enter element to delete :2
original array is :12233updated array:1  2  3  3
```

4)Output for deleting an repeating element :

```
enter size of array :5
enter elemts of array :1
2
2
3
3
choose an option from the following 1 display
 an element from all position of array  5 exit
enter element to delete :2
original array is :1223updated array :1  3  3
```

5)ouput of exit statement:

```
enter size of array5
enter elemts of array:1
2
3
4
choose an option from the following 1 display original array. 2insert element at any given position. 3 delete an element from an array 4 delete a
n element from all position of array  5 exit5
exit
```

4. Learning Outcomes

(i) Different operations that can be performed on array.
(ii) How to insert element at any position.
(iii) How to delete repeating array element .
(iv) How to search for element .