VP Vidyalankar Polytechnic	DEPARTMENT OF COMPUTER ENGINEERING

Subject: - DSU	**Subject Code:** 313301
Semester: - III	**Course:** Computer Engineering
Laboratory No: L003	**Name of Subject Teacher:** Prof. Imran S.
Name of Student: Mohd Saad Khan	**Roll Id: -** 24203A0007
Experiment No:	1
Title of Experiment	Write a 'C' program to perform following Operations on Array: Create, Insert, Delete, Display.

Aim: Write a 'C' program to perform following Operations on Array: Create, Insert, Delete, Display.

Algorithm:

Step 1: Start.

Step 2: Create (or Declare) Array.

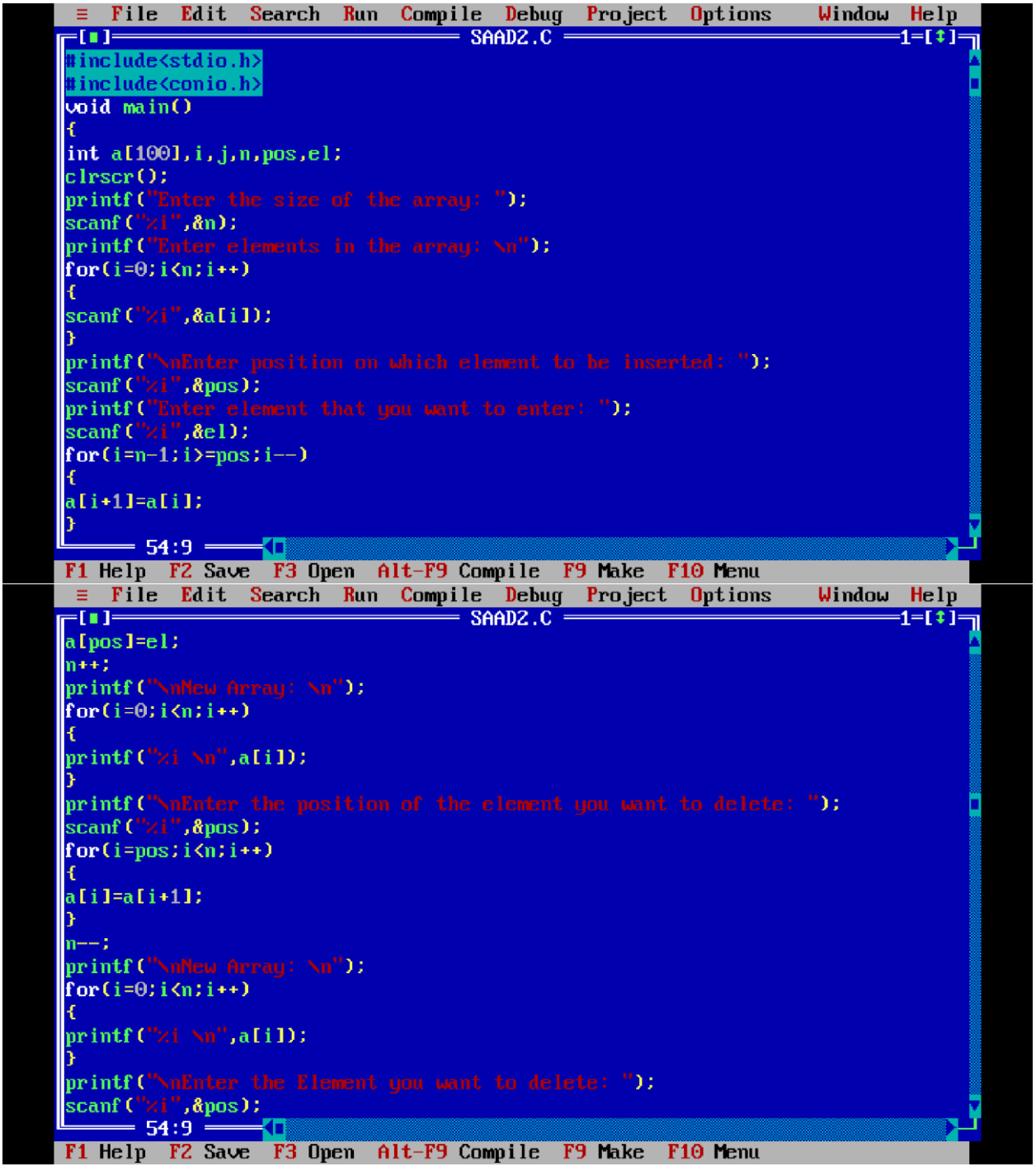
Step 3: Inserting elements into an array involves assigning values to specific elements within the array.

Step 5: Deleting elements from an array involves removing elements from specific positions within the array.

Step 5: Displaying the contents of an array.

Step 6: Stop.

Code:



```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,j,n,pos,el;
clrscr();
printf("Enter the size of the array: ");
scanf("%i",&n);
printf("Enter elements in the array: \n");
for(i=0;i<n;i++)
{
scanf("%i",&a[i]);
}
printf("\nEnter position on which element to be inserted: ");
scanf("%i",&pos);
printf("Enter element that you want to enter: ");
scanf("%i",&el);
for(i=n-1;i>=pos;i--)
{
a[i+1]=a[i];
}
```

```
a[pos]=el;
n++;
printf("\nNew Array: \n");
for(i=0;i<n;i++)
{
printf("%i \n",a[i]);
}
printf("\nEnter the position of the element you want to delete: ");
scanf("%i",&pos);
for(i=pos;i<n;i++)
{
a[i]=a[i+1];
}
n--;
printf("\nNew Array: \n");
for(i=0;i<n;i++)
{
printf("%i \n",a[i]);
}
printf("\nEnter the Element you want to delete: ");
scanf("%i",&pos);
```

```
 ≡  File  Edit  Search  Run  Compile  Debug  Project  Options    Window  Help
[■]═══════════════ SAAD2.C ═══════════════1=[↕]
pos=0;
for(i=0;i<n;i++)
{
if(a[i]==el)
{
pos=i;
break;
}
else
{
printf("Element not found :(");
}
}
for(i=pos;i<n;i++)
{
a[i]=a[i+1];
}
n--;
printf("\n\n\n New Array: \n");
for(i=0;i<n;i++)
{
═══ 63:78 ═══
F1 Help  Alt-F8 Next Msg  Alt-F7 Prev Msg  Alt-F9 Compile  F9 Make  F10 Menu
```

```
 ≡  File  Edit  Search  Run  Compile  Debug  Project  Options    Window  Help
[■]═══════════════ SAAD2.C ═══════════════1=[↕]
printf("%i \n",a[i]);
}
getch();
}
```

Output: -

```
Enter the size of the array: 5
Enter elements in the array:
1
2
3
4
5

Enter position on which element to be inserted: 2
Enter element that you want to enter: 7

New Array:
1
2
7
3
4
5
```

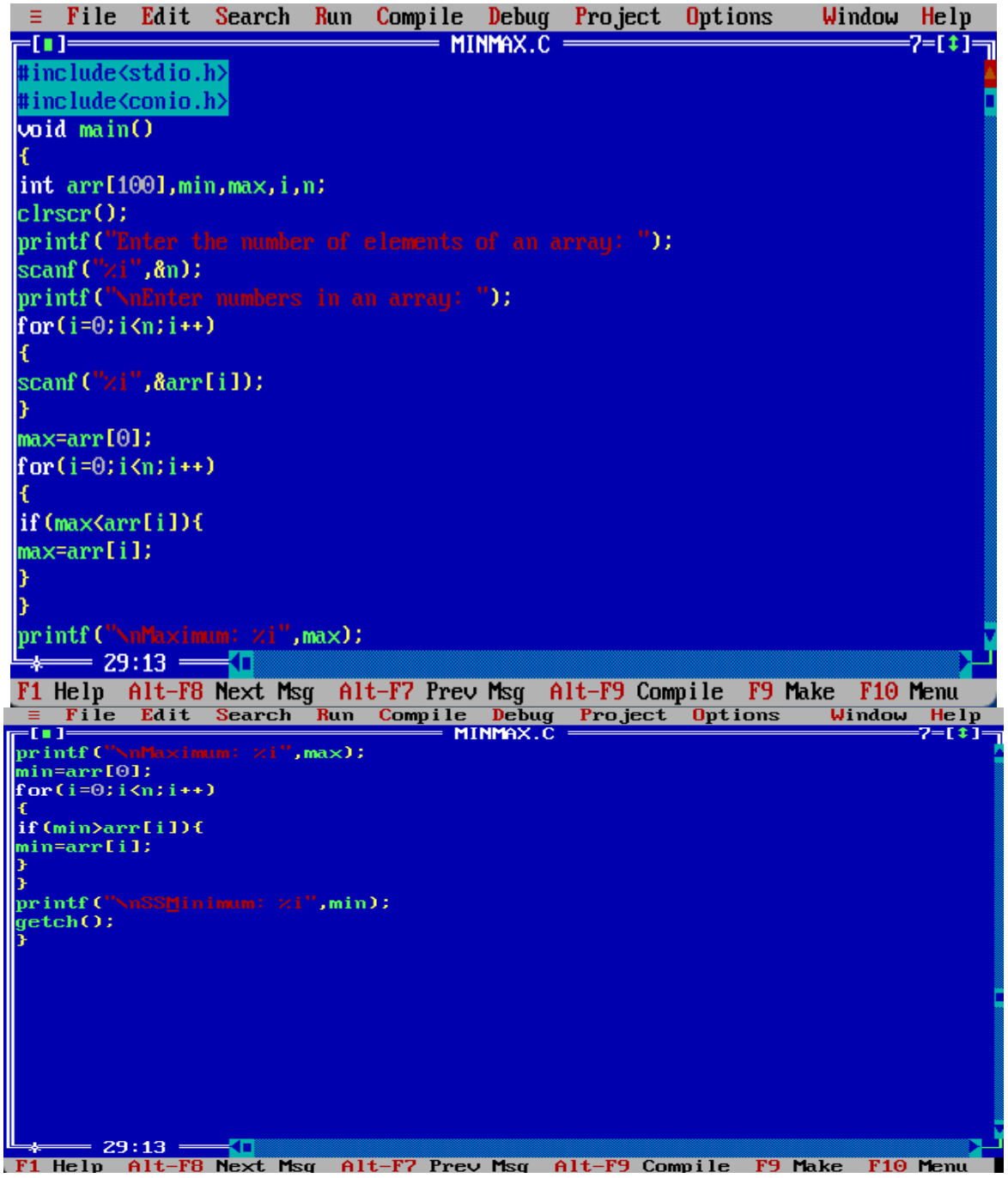
```
Enter the Element you want to delete: 1


 New Array:
2
3
4
5
_
```

Practical Related Questions:

1. **Write a C program to find minimum and maximum element in an array.**

Ans:



```
File  Edit  Search  Run  Compile  Debug  Project  Options  Window  Help
                          MINMAX.C
#include<stdio.h>
#include<conio.h>
void main()
{
int arr[100],min,max,i,n;
clrscr();
printf("Enter the number of elements of an array: ");
scanf("%i",&n);
printf("\nEnter numbers in an array: ");
for(i=0;i<n;i++)
{
scanf("%i",&arr[i]);
}
max=arr[0];
for(i=0;i<n;i++)
{
if(max<arr[i]){
max=arr[i];
}
}
printf("\nMaximum: %i",max);
                    29:13
F1 Help  Alt-F8 Next Msg  Alt-F7 Prev Msg  Alt-F9 Compile  F9 Make  F10 Menu
```

```
File  Edit  Search  Run  Compile  Debug  Project  Options  Window  Help
                          MINMAX.C
printf("\nMaximum: %i",max);
min=arr[0];
for(i=0;i<n;i++)
{
if(min>arr[i]){
min=arr[i];
}
}
printf("\nSSMinimum: %i",min);
getch();
}
                    29:13
F1 Help  Alt-F8 Next Msg  Alt-F7 Prev Msg  Alt-F9 Compile  F9 Make  F10 Menu
```

Output:

```
Enter the number of elements of an array: 5

Enter numbers in an array: 12 20 38 46 93

Maximum: 93
SSMinimum: 12
```

2. Write a C program to search a specific element in an array.

Ans:

```
≡ File Edit Search Run Compile Debug Project Options Window Help
[■]═══ FOUND.C ═══6=[↕]
#include<stdio.h>
#include<conio.h>
void main()
{
int arr[100],i,num,key,found=0;
clrscr();
printf("Enter the number of elements of an array: ");
scanf("%i",&num);
printf("\nEnter numbers in an array: ");                    S
for(i=0;i<num;i++)
{
scanf("%i",&arr[i]);
}
printf("\nEnter any element: ");
scanf("%i",&key);
for(i=0;i<num;i++)
{
if(arr[i]==key){
found=1;
break;
}
═══ 9:63 ═══
F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu
≡ File Edit Search Run Compile Debug Project Options Window Help
[■]═══ FOUND.C ═══6=[↕]
}
}
if(found==1){
printf("\n%i is there at index %i",key,i);
}
else{
printf("\nNot Found");
}
getch();
}
```

Ouuput:

```
Enter the number of elements of an array: 5

Enter numbers in an array: 11 22 35 98 20

Enter any element: 35

35 is there at index 2
```

Marks Obtained			**Dated signature of Teacher**
Process Related (35)	**Product Related (15)**	**Total (50)**	