



DEPARTMENT OF COMPUTER ENGINEERING

Subject: - DATA STRUCTURE		Subject Code: 313301	
Semester: - III		Course: COMPUTER ENGINEERING	
Laboratory No: L003		Name of Subject Teacher: Prof. Imraan S.	
Name of Student: Saad sharif kazi		Roll Id: - 24203A0013	
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:

```
File Edit Search Run Compile Debug Project Options Window Help
SAAD1.C 1=[+]
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,pos,e1,i;
clrscr();
printf("Enter the size of array:\n");
scanf("%i",&n);
printf("Enter the elements in the array:\n");
for(i=0;i<n;i++)
{
scanf("%i",&a[i]);
}
printf("\nEnter the element on which element to be inserted:\n");
scanf("%i",&e1);
for(i=n-1;i>=pos;i--)
{
a[i+1]=a[i];
}
a[pos]=e1;
n++;
1:1
```

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```
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SAAD1.C 1=[+]
printf("\nNew Array:\n");
for(i=0;i<n;i++)
{
printf("\n %i ",a[i]);
}
printf("\nEnter the position of the element you want to delete:\n");
scanf("%i",&pos);
for(i=pos;i<n;i++)
{
a[i]=a[i+1];
}
n--;
printf("\nEnter the element you want to delete:\n");
scanf("%i",&e1);
pos=0;
for(i=0;i<n;i++)
{
if(a[i]==e1)
{
pos=i;
break;
}
}
42:1
```

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```
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SAAD1.C
pos=i;
break;
}
else
{
printf("Element not found:\\n");
}
}
for(i=pos; i<n; i++)
{
a[i]=a[i+1];
}
n--;
printf("\\n\\nNew array:\\n");
for(i=0; i<n; i++)
{
printf("%i\\n",a[i]);
}
getch();
}
61:1
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```

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

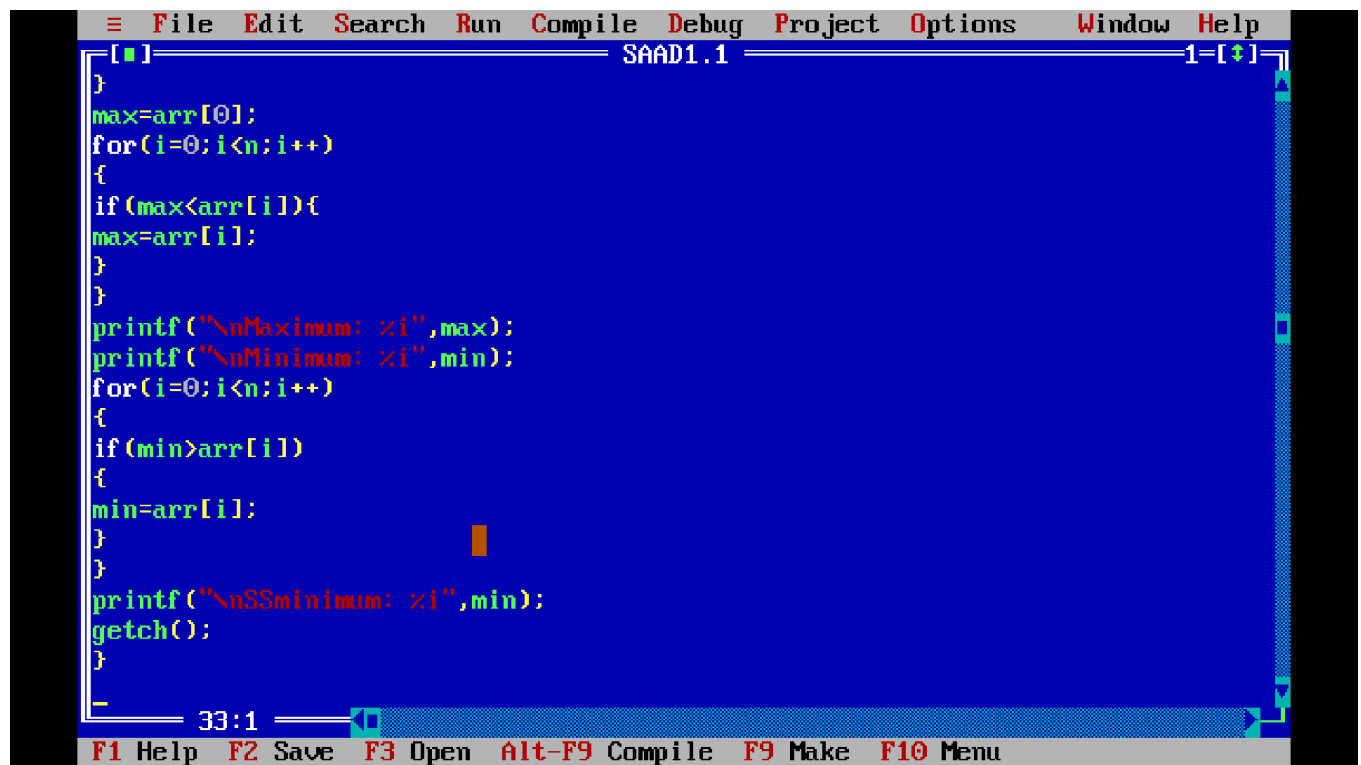
New Array:
2
3
4
5
=
```

Practical Related Questions:

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

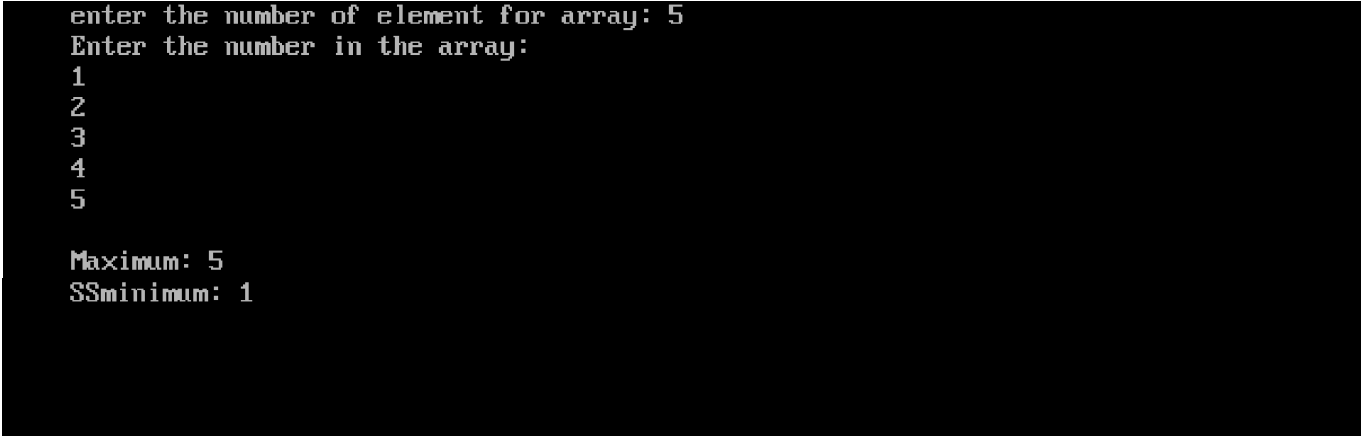
CODE:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int arr[100],min,max,i,n;
    clrscr();
    printf("enter the number of element for array: ");
    scanf("%i",&n);
    printf("Enter the number in the array:\n");
    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);
}
```



```
[■] SAAD1.1 1=1  
}  
max=arr[0];  
for(i=0;i<n;i++)  
{  
if(max<arr[i]){  
max=arr[i];  
}  
}  
printf("\nMaximum: %i",max);  
printf("\nMinimum: %i",min);  
for(i=0;i<n;i++)  
{  
if(min>arr[i])  
{  
min=arr[i];  
}  
}  
printf("\nSSminimum: %i",min);  
getch();  
}  
-  
33:1  
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```

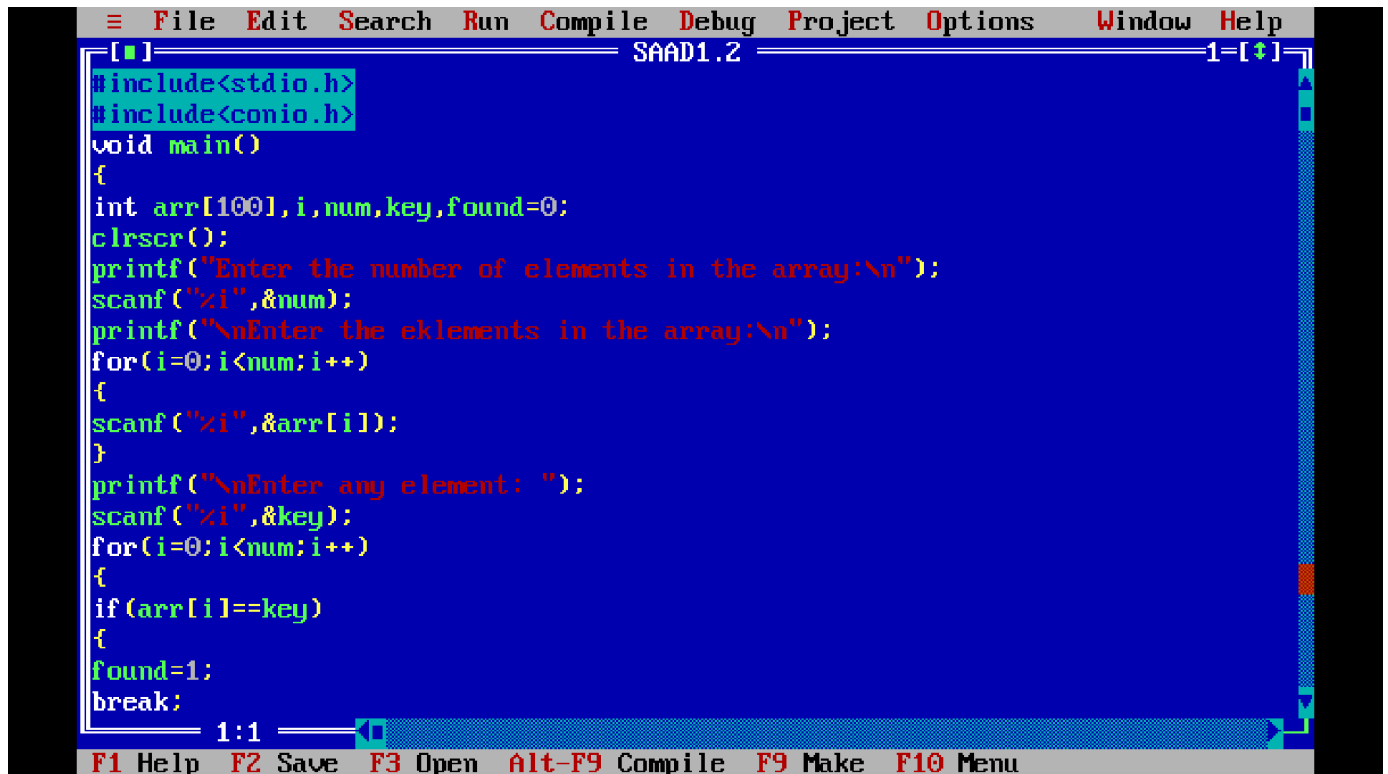
OUTPUT:



```
enter the number of element for array: 5  
Enter the number in the array:  
1  
2  
3  
4  
5  
  
Maximum: 5  
SSminimum: 1
```

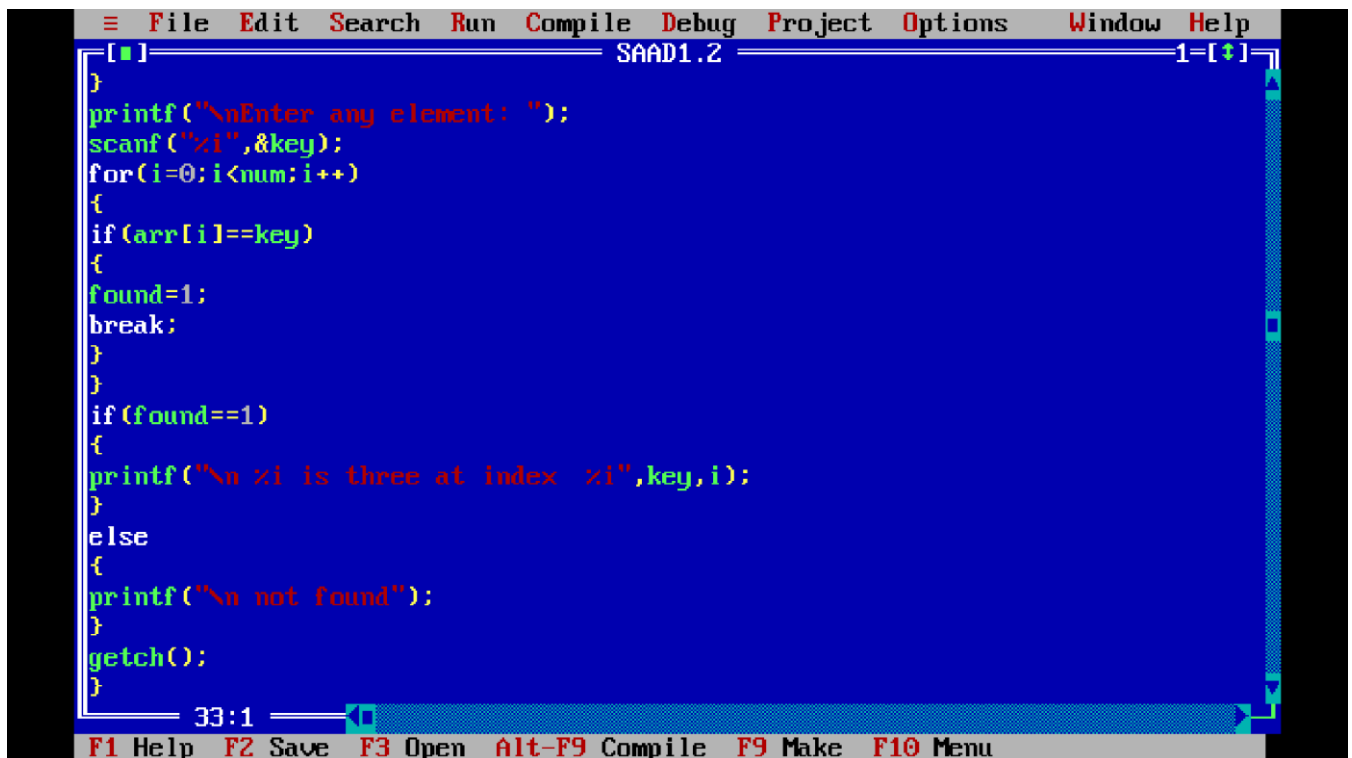
2. Write a C program to search a specific element in an array.

CODE:



```
File Edit Search Run Compile Debug Project Options Window Help
SAAD1.2
#include<stdio.h>
#include<conio.h>
void main()
{
    int arr[100],i,num,key,found=0;
    clrscr();
    printf("Enter the number of elements in the array:\n");
    scanf("%d",&num);
    printf("\nEnter the elements in the array:\n");
    for(i=0;i<num;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("\nEnter any element: ");
    scanf("%d",&key);
    for(i=0;i<num;i++)
    {
        if(arr[i]==key)
        {
            found=1;
            break;
        }
    }
}
```

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```
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SAAD1.2
}
printf("\nEnter any element: ");
scanf("%d",&key);
for(i=0;i<num;i++)
{
    if(arr[i]==key)
    {
        found=1;
        break;
    }
}
if(found==1)
{
    printf("\n %d is three at index %d",key,i);
}
else
{
    printf("\n not found");
}
getch();
}
```

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OUTPUT:

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

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

```
Enter any element: 4
```

```
4 is three at index 3
```

