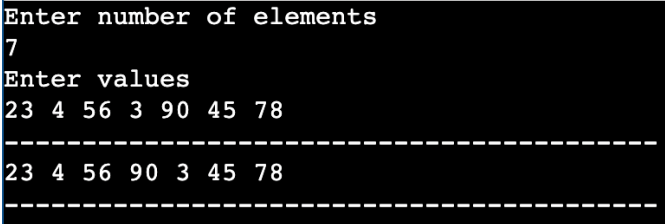


AIM:	Demonstrate the use of pointers to solve a given problem.
Program 1	
PROBLEM STATEMENT:	Write a program to swap the smallest and largest elements in an array using pointers
PROGRAM:	<pre> #include<stdio.h> int main() { int i,n,max=1,min=1,t; printf("Enter number of elements\n");//Taking the number of elements in an array scanf("%d",&n); printf("Enter values\n"); int a[n]; for (i = 0; i < n; i++) { scanf("%d",&a[i]);// Values of each elements if(*(a+i)>=*(a+max)) { max=i;//Maximum number in the array } else if(*(a+i)<=*(a+min)) { min=i;//Minimum number in the array } } t = *(a+min); *(a+min) = *(a+max); *(a+max) = t; printf("-----\n"); for (i = 0; i < n; i++) { printf("%d ",a[i]); } printf("\n-----"); return 0; } </pre>
RESULT:  <pre> Enter number of elements 7 Enter values 23 4 56 3 90 45 78 ----- 23 4 56 90 3 45 78 ----- </pre>	

Program 2

PROBLEM STATEMENT :

Write a program to reverse the position of all elements in the array using pointers.

PROGRAM:

```
#include<stdio.h>
int main(int argc, char const *argv[]) {
    int i,n;
    printf("Enter number of elements\n");//Taking the number of elements in an array
    scanf("%d",&n);
    printf("Enter values\n");
    int a[n],b[n];
    for ( i = 0; i < n; i++)
    {
        scanf("%d",&a[i]);// Values of each elements
    }
    printf("Reversed array\n");
    for ( i = 0; i < n; i++)
    {
        *(b+i) = *(a+n-1-i);//Storing the reverse of array one to other array
        printf("%d ",b[i]);//printing reverse of an array
    }
    return 0;
}
```

RESULT:

```
Enter number of elements
7
Enter values
23 4 5 6 7 89 34
Reversed array
34 89 7 6 5 4 23
```

Program 3

PROBLEM STATEMENT:

Write a program to calculate the transpose of a matrix using pointers. Dimensions of the matrix will be decided by the user.

PROGRAM:

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int matrix[10][10],i,j,r,c;
    printf("How many rows and columns in the matrix:- ");
    scanf(" %d %d",&r,&c);//Taking number of rows and columns
```

```

printf("Enter the elements:- ");
for(i=0;i<r;i++)
for(j=0;j<c;j++)
{
scanf("%d",&matrix[i][j]); //Taking values of each elements
}
printf("-----\n");
printf("The transpose of matrix is:- \n");
for(i=0;i<c;i++)
{
for(j=0;j<r;j++)
printf("%5d",matrix[j][i]); //Printing the Transpose
printf("\n");
}
printf("-----");
return 0;
}

```

RESULT:

```

How many rows and columns in the matrix:- 2 3
Enter the elements:- 2 3 5
4 5 6
-----
The transpose of matrix is:-
    2    4
    3    5
    5    6
-----

```

CONCLUSION:

In this experiment we learned to demonstrate the use of pointers to solve a given problem.