**Program:**

#include <stdio.h>

#include <stdlib.h>

int arr[100],n,i;

void main()

{

int a, b;

printf(" enter the number of elements\n");

scanf("%d",&n);

printf("\n enter the elements \n");

for (i = 0; i < n; i++)

scanf("%d",&arr[i]);

while(1){

printf("\n please choose an operation from below\n 1.Array traversal\n 2.Array insertion\n 3.Array deletion\n 4.Array Searching\n 0. Exit\n ");

scanf("%d",&a);

switch(a){

case 1 : traversal(arr,n);

break;

case 2 :n=insert(&arr);

break;

case 3 : delete1(&arr,n);

n--;

break;

case 4 : search(arr,n);

break;

case 0 : exit(0);

default : printf(" wrong input\n");

break;

}

}

}

void traversal(){

printf(" \n the elements are \n");

for (i = 0; i < n; i++)

printf("%d ", arr[i]);

printf("\n");

}

int insert(int \*arr){

int x,pos ;

printf("enter the elements to be insert\n");

scanf("%d",&x);

for (i = 0; i < n; i++)

printf("%d\t", \*(arr+i));

printf("\n enter the position of the element to insert\n"); scanf("%d",&pos);

n++;

for (i = n; i >= pos; i--)

\*(arr+i) = \*((arr+i)-1);

arr[pos - 1] = x;

for (i = 0; i < n; i++)

printf("%d ", \*(arr+i));

printf("\n");

return n;

}

void delete1(int \*arr,int n){

int x,pos ;

printf("Enter the location where you wish to delete element\n"); scanf("%d", &pos);

if (pos >= n+1)

printf("Deletion not possible.\n");

else

{

for (i = pos - 1; i < n - 1; i++)

\*(arr+i) = \*((arr+i)+1);

printf("Resultant array:\n");

for (i = 0; i < n - 1; i++)

printf("%d\n", \*(arr+i));

}

}

void search(int arr[100],int n){

int x,pos,b,flag=0 ;

printf("\n enter the elements to be searched\n");

scanf("%d",&b);

for(i=0;i<=n;i++){

if(b==arr[i])

flag=i;

}

if(flag!=0)

    printf("\n the he element %d is found at position %d\n",b,flag+1);

             else

printf("not found");

}