#include <stdio.h>

#include<stdlib.h>

int a[20]; // Array declaration

int n,elem,i,pos;

void create();

int display();

void insert();

int delete();

void main()

{

int choice;

printf("\n\n--------MENU-----------\n");

printf("1.CREATE\n");

printf("2.DISPLAY\n");

printf("3.INSERT\n");

printf("4.DELETE\n");

printf("5.EXIT\n");

printf("-----------------------");

while(1)

{

printf("\nENTER YOUR CHOICE:\t");

scanf("%d",&choice);

switch(choice)

{

case 1: create();

break;

case 2: display();

break;

case 3: insert();

break;

case 4: delete();

break;

case 5: exit(0);

default: printf("\nInvalid choice:\n");

break;

}

}

}

void create()

{

printf("\nEnter the size of the array elements:\t");

scanf("%d",&n);

printf("\nEnter the elements for the array:\n");

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

{

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

}

}

int display()

{

if(n==0)

{

printf("\t Array is empty; no elements to display\n");

return 0;

}

printf("\nThe array elements are:\n");

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

{

printf("%d\t",a[i]);

}

}

void insert()

{

printf("\nEnter the position for the new element:\t");

scanf("%d",&pos);

if(pos<=n)

{

printf("\nEnter the element to be inserted :\t");

scanf("%d",&elem);

for(i=n-1;i>=pos;i--) //search for pos and shift the elements one position towards right

{

a[i+1]=a[i];

}

a[pos]=elem;

n=n+1;

display();

}

else

{

printf(" Invalid Position");

}

}

int delete()

{

if(n==0)

{

printf("\t Array is empty; no elements to delete \n");

return 0;

}

printf("\nEnter the position of the element to be deleted:\t");

scanf("%d",&pos);

if(pos<=n-1)

{

elem=a[pos];

printf("\n Deleted element is =%d",elem);

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

{

a[i]=a[i+1];

}

n=n-1;

display();

}

else

{

printf(" Invalid Position");

}

}