//Journal Practical - 1A

#include<stdio.h>

int a[20],b[20],c[40];

int m,n,p,val,i,j,key,pos,temp;

/\*Function Prototype\*/

void create();

void display();

void insert();

void del();

void search();

void merge();

void sort();

int main()

{

int choice;

do{

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

printf("1.Create\n");

printf("2.Display\n");

printf("3.Insert\n");

printf("4.Delete\n");

printf("5.Search\n");

printf("6.Sort\n");

printf("7.Merge\n");

printf("8.Exit\n");

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

printf("\nEnter your choice:\t");

scanf("%d",&choice);

switch(choice)

{

case 1: create();

break;

case 2:

display();

break;

case 3:

insert();

break;

case 4:

del();

break;

case 5:

search();

break;

case 6:

sort();

break;

case 7:

merge();

break;

case 8:

exit(0);

break;

default:

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

break;

}

}while(choice!=8);

return 0;

}

void create() //creating an array

{

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]);

}

}//end of create()

void display() //displaying an array elements

{

int i;

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

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

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

}

}//end of display()

void insert() //inserting an element in to an array

{

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

scanf("%d",&pos);

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

scanf("%d",&val);

for(i=n-1;i>=pos;i--)

{

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

}

a[pos]=val;

n=n+1;

}//end of insert()

void del() //deleting an array element

{

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

scanf("%d",&pos);

val=a[pos];

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

{

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

}

n=n-1;

printf("\nThe deleted element is =%d",val);

}//end of delete()

void search() //searching an array element

{

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

scanf("%d",&key);

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

{

if(a[i]==key)

{

printf("\nThe element is present at position %d",i);

break;

}

}

if(i==n)

{

printf("\nThe search is unsuccessful");

}

}//end of serach()

void sort() //sorting the array elements

{

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

{

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

{

if(a[j]>a[j+1])

{

temp=a[j];

a[j]=a[j+1];

a[j+1]=temp;

}

}

}

printf("\nAfter sorting the array elements are:\n");

display();

}//end of sort

void merge() //merging two arrays

{

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

scanf("%d",&m);

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

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

{

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

}

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

{

c[j]=a[i];

}

for(i=0;i<m;i++,j++)

{

c[j]=b[i];

}

p=n+m;

printf("\nArray elements after merging:\n");

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

{

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

}

}//end of merge()