#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

void display();

void unions();

void intersection();

void difference();

int n1,n2,set1[]={0,0,0,0,0,0,0,0,0,0},set2[]={0,0,0,0,0,0,0,0,0,0};

void main()

{

int i,val;

printf("Enter size(less than 11) of set1: ");

scanf("%d",&n1);

printf("Enter the values(1-10): \n");

for(i=0;i<n1;i++)

{

scanf("%d",&val);

set1[val-1]=1;

}

printf("\nEnter size(less than 11) of set2: ");

scanf("%d",&n2);

printf("Enter the values(1-10):\n ");

for(i=0;i<n2;i++)

{

scanf("%d",&val);

set2[val-1]=1;

}

int choice;

while(1)

{

printf("\n1.Display \n2.Union \n3.Intersection \n4.Difference \n5.Exit \n");

printf("Enter your choice: ");

scanf("%d",&choice);

switch(choice)

{

case 1:display();

break;

case 2:unions();

break;

case 3:intersection();

break;

case 4:difference();

break;

case 5:exit (0);

break;

default:printf("Invalid choice");

}

}

}

void display()

{

int i,j;

printf("\nValues of set1 is: ");

for(i=0;i<10;i++)

printf("%d ",set1[i]);

printf("\nValues of set2 is: ");

for(i=0;i<10;i++)

printf("%d ",set2[i]);

}

void unions()

{

int i,res[10];

printf("Union of sets are: ");

for(i=0;i<10;i++)

{

if(set1[i]==0 && set2[i]==0)

res[i]=0;

else

res[i]=1;

}

for(i=0;i<10;i++)

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

}

void intersection()

{

int i,res[i];

for(i=0;i<10;i++)

{

if(set1[i]==1 && set2[i]==1 )

res[i]=1;

else

res[i]=0;

}

for(i=0;i<10;i++)

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

}

void difference()

{

printf("The difference set1-set2 is: ");

int i,res[10],d[10];

for(i=0;i<10;i++)

{

if(set2[i]==0)

d[i]=1;

else

d[i]=0;

}

for(i=0;i<10;i++)

{

if(set1[i]==1 && d[i]==1 )

res[i]=1;

else

res[i]=0;

}

for(i=0;i<10;i++)

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

}



