#include <stdio.h>

void input();

void output();

void setunion();

void intersection();

void difference();

int a[]={0,0,0,0,0,0,0,0,0},b[]={0,0,0,0,0,0,0,0,0} ;

int main()

{

int ch,wish;

while(1)

{

printf("\n\_\_\_\_MENU\_\_\_\_\n");

printf("1.Input\n2.Union\n3.Intersection\n4.Difference\n");

printf("enter choice\n");

scanf("%d",&ch);

switch(ch)

{

case 1:input();

break;

case 2:setunion();

break;

case 3:intersection();

break;

case 4:difference();

break;

default :printf("Wrong input");

exit(0);

}

}

}

void input()

{ int n,x,i;

printf("enter size of the 1st set\n");

scanf("%d",&n);

printf("enter elements\n");

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

{ scanf("%d",&x);

a[x-1]=1;

}

printf("enter size of the 2nd set\n");

scanf("%d",&n);

printf("enter elements\n");

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

{ scanf("%d",&x);

b[x-1]=1;

}

printf("\n1st set\n");

for(i=0;i<9;i++)

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

}

printf("\n2nd set\n");

for(i=0;i<9;i++)

{ printf("%d",b[i]);

}

}

void output(int c[])

{ int i;

printf("\n Set is");

for(i=0;i<9;i++)

{ if (c[i]!=0)

printf(" %d ",i+1);

}

}

void setunion()

{ int i,c[10];

for(i=0;i<9;i++)

{ if (a[i]!=b[i])

c[i]=1;

else c[i]=a[i];

}

for(i=0;i<9;i++)

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

}

output(c);

}

void intersection()

{

int i,c[10];

for(i=0;i<9;i++)

{ if (a[i]==b[i])

c[i]=a[i];

else c[i]=0;

}

for(i=0;i<9;i++)

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

}

output(c);

}

void difference()

{

int i,c[10];

for(i=0;i<9;i++)

{ if (a[i]==1 && b[i]==0)

c[i]=1;

else c[i]=0;

}

for(i=0;i<9;i++)

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

}

output(c);

}