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#include<stdio.h>

#include<stdlib.h> void

main()

{

int ch,A[50],B[50],C[50],m,n,i; do

{

printf("\nInput choice to perform: ");

printf("\n1.Union\t2.Intersection\t3.Difference\t4.Exit");

printf("\nChoice: "); scanf("%d",&ch);

switch(ch)

{

case 1:printf("\nEnter cardinality of first set: ");

scanf("%d",&m); printf("\nEnter cardinality of

second set: "); scanf("%d",&n); if(m!=n)

{

printf("\nCannot perform union!");

break;

}

printf("\nEnter elements of first set:(0/1) ");

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

{

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

}

printf("\nEnter elements of second set:(0/1) ");

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

{

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

}

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printf("\nElements of set1 union set2: ");
for(i=0;i<m;i++)
{
C[i]=A[i] | B[i];
printf("%d ",C[i]);
}

break; case 2:printf("\nEnter cardinality of first
set: "); scanf("%d",&m); printf("\nEnter
cardinality of second set: "); scanf("%d",&n);
if(m!=n)
{
printf("\nCannot perform intersection!");
break;
}

printf("\nEnter elements of first set:(0/1) ");
for(i=0;i<m;i++)
{
scanf("%d",&A[i]);
}

printf("\nEnter elements of second set:(0/1) ");
for(i=0;i<n;i++)
{
scanf("%d",&B[i]);
}

printf("\nElements of set1 intersection set2:");
for(i=0;i<m;i++)

{
C[i]=A[i]&B[i];
printf("%d ",C[i]);
}

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break; case 3:printf("\nEnter cardinality of first
set: "); scanf("%d",&m); printf("\nEnter
cardinality of second set: "); scanf("%d",&n);
if(m!=n)
{
printf("\nCannot perform difference!");
break;
}
printf("\nEnter elements of first set:(0/1) ");
for(i=0;i<m;i++)
{
scanf("%d",&A[i]);
}
printf("\nEnter elements of second set:(0/1) ");
for(i=0;i<n;i++)
{
scanf("%d",&B[i]);
}
for(i=0;i<n;i++)
{
if(A[i]==0)
C[i]=0; else
{
if(B[i]==1)
C[i]=0; else
C[i]=1;
}
}
printf("\nElements of set1 - set2: ");
for(i=0;i<m;i++)

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{
printf("%d ",C[i]);
}
break; case 4:printf("\nProgram exit
successfully!"); exit(0); break;
default:printf("\nInvalid choice!");
};
}while(1);

}

```

Output

Input choice to perform:

1.Union 2.Intersection 3.Difference 4.Exit

Choice: 1

Enter cardinality of first set: 3

Enter cardinality of second set: 1

Cannot perform union!

Input choice to perform:

1.Union 2.Intersection 3.Difference 4.Exit

Choice: 1

Enter cardinality of first set: 3

Enter cardinality of second set: 3

Enter elements of first set:(0/1) 1

0

1

Enter elements of second set:(0/1) 0

0

1

Elements of set1 union set2: 1 0 1

Input choice to perform:

1.Union 2.Intersection 3.Difference 4.Exit

Choice: