

DS lab

Set Data Structure and set operations (Union, Intersection and Difference) using Bit String ?

```
#include<stdio.h>
void main()
{

int i,ch,n1,n2,set1[10],set2[10],set4[20], set3[20];
char wish;

do
{
printf("press 1 for union");
printf("\npress 2 for intersection");
printf("\npress 3 for difference");
printf("\n enter ur choice");
scanf("%d",&ch);
switch(ch)
{
    case 1:
printf("\nenter the size of set1\n");
scanf("%d",&n1);
printf("enter the element of set1\n");
for(i=0;i<n1;i++)
scanf("%d",&set1[i]);
printf("enter the size of set2\n");
```

```
scanf("%d",&n2);
printf("enter the elements of set2\n");
for(i=0;i<n2;i++)
scanf("%d",&set2[i]);
```

```
if(n1==n2)
{
    for(i=0;i<n2;i++)
    {

        set3[i]=set1[i]||set2[i];
    }
```

```
    for(i=0;i<n2;i++)
    {
        printf("%d",set3[i]);
    }
```

```
}
else
{
    printf("size are not equal");
}
```

```
break;
case 2:
printf("\nenter the size of set1\n");
scanf("%d",&n1);
```

```
printf("enter the element of set1\n");
for(i=0;i<n1;i++)
scanf("%d",&set1[i]);
printf("enter the size of set2\n");
scanf("%d",&n2);
printf("enter the elements of set2\n");
for(i=0;i<n2;i++)
scanf("%d",&set2[i]);
```

```
if(n1==n2)
{
    for(i=0;i<n2;i++)
    {

        set3[i]=set1[i]&&set2[i];
    }

    for(i=0;i<n2;i++)
    {
        printf("%d",set3[i]);
    }

}
else
{
    printf("size are not equal");
}
break;
```

case 3:

```
printf("\nenter the size of set1\n");  
scanf("%d",&n1);
```

```
printf("enter the element of set1\n");  
for(i=0;i<n1;i++)  
scanf("%d",&set1[i]);  
printf("enter the size of set2\n");  
scanf("%d",&n2);  
printf("enter the elements of set2\n");  
for(i=0;i<n2;i++)  
scanf("%d",&set2[i]);
```

```
if(n1==n2)  
{
```

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

```
set3[i]=set1[i]&&!set2[i];  
}
```

```
for(i=0;i<n2;i++)  
{  
    printf("%d",set3[i]);  
}
```

```
}
```

```
else
{
printf("size are not equal");
}

break;

default:
printf("invalid case input");

}
printf("\n want to continue: ");
scanf("%c",&wish);
}
while(wish!='n');
}
```

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*C#, VB, Perl, Swift, Prolog,
Code, Compile, Run and Debug*

#include<stdio.h>

void main()

{

int i,ch,n1,n2,set1[10],set2[10];
char wish;

do

{

printf("press 1 for union");

printf("\npress 2 for intersection");

printf("\npress 3 for difference");

printf("\n enter ur choice");

scanf("%d",&ch);

switch(ch)

{

case 1:

printf("\nenter the size of set 1");

scanf("%d",&n1);

printf("enter the element of set 1");

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

scanf("%d",&set1[i]);



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```
scanf("%d",&set1[i]),
printf("enter the size of set
scanf("%d",&n2);
printf("enter the elements of
for(i=0;i<n2;i++)
scanf("%d",&set2[i]);

if(n1==n2)
{
    for(i=0;i<n2;i++)
    {

        set3[i]=set1[i]||set2[i]
    }

    for(i=0;i<n2;i++)
    {
        printf("%d",set3[i])
    }
}
else
{
    printf("size are not equal")
}
```



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```
break;
case 2:
printf("\nenter the size of s
scanf("%d",&n1);
printf("enter the element of
for(i=0;i<n1;i++)
scanf("%d",&set1[i]);
printf("enter the size of set
scanf("%d",&n2);
printf("enter the elements of
for(i=0;i<n2;i++)
scanf("%d",&set2[i]);

if(n1==n2)
{
for(i=0;i<n2;i++)
{

set3[i]=set1[i]&&set2[i];
}

for(i=0;i<n2;i++)
{
printf("%d",set3[i])
}
```




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Sha

```
7 }
8 else
9 {
10 printf("size are not equal")
11 }
12 break;
13 case 3:
14 printf("\nenter the size of
15 scanf("%d",&n1);
16
17 printf("enter the element of
18 for(i=0;i<n1;i++)
19 scanf("%d",&set1[i]);
20 printf("enter the size of se
21 scanf("%d",&n2);
22 printf("enter the elements o
23 for(i=0;i<n2;i++)
24 scanf("%d",&set2[i]);
25
26 if(n1==n2)
27 {
28
29 for(i=0;i<n2;i++)
30 {
31
32 set3[i]=set1[i]&&!set2[i]
```

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```
1
2
3     set3[i]=set1[i]&&!set2[i]
4 }
5
6     for(i=0;i<n2;i++)
7     {
8         printf("%d",set3[i])
9     }
10
11 }
12
13 else
14 {
15     printf("size are not equal")
16 }
17
18 break;
19
20 default:
21     printf("invalid case input")
22 }
23
24     printf("\n want to continue: ")
25     scanf("%c",&wish);
26 }
27 while(wish!='n');
28 }
```



input



4G 73% 10:06 p.m.



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T3



input

press 1 for union

press 2 for intersection

press 3 for difference

enter ur choice1

enter the size of set1

4

enter the element of set1

6

7

5

8

enter the size of set2

4

enter the elements of set2

9

3

5

1

1111

want to continue: press 1 for u

nion

press 2 for intersection

press 3 for difference

enter ur choice





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input

want to continue: press 1 for union

press 2 for intersection

press 3 for difference

enter ur choice2

enter the size of set1

4

enter the element of set1

7

6

8

3

enter the size of set2

4

enter the elements of set2

6

9

3

2

1111

want to continue: press 1 for union

press 2 for intersection

press 3 for difference

enter ur choice



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input

want to continue: press 1 for union

press 2 for intersection

press 3 for difference

enter ur choice3

enter the size of set1

4

enter the element of set1

4

7

3

8

enter the size of set2

4

enter the elements of set2

5

1

7

3

0000

want to continue: press 1 for union

press 2 for intersection

press 3 for difference

enter ur choice