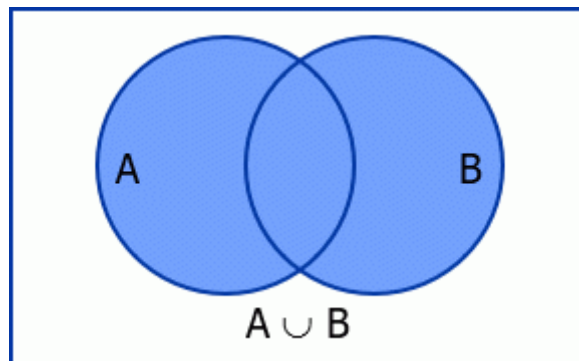


## **Lab 01**

### **Title: To implement union of two sets**

The union of two given sets is the set that contains all the elements present in both sets. The symbol for the union of sets is " $\cup$ ". For any two sets A and B, the union,  $A \cup B$  (read as A union B) lists all the elements of set A as well as set B. Thus, for two given sets, Set A = {1,2,3,4,5} and Set B = {3,4,6,8},  $A \cup B = \{1,2,3,4,5,6,8\}$



### **Program**

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int a[10],b[10],i,c[10],j,k=0,n1,n2;
    // taking input set A
    printf("Enter number of element of set A\n");
    scanf("%d",&n1);
    printf("Enter the element of set A \n");
    for(i=0;i<n1;i++)
        scanf("%d",&a[i]);
    // taking input set B
    printf("Enter number of element of set B\n");
    scanf("%d",&n2);
    printf("Enter the element of set B \n");
    for(i=0;i<n2;i++)
        scanf("%d",&b[i]);
    // logic for calculate union
    // copy the element of set A in set C
    for(i=0;i<n1;i++)
    {
        // repeted element is not allowed so we check is any value repeted
        for(j=0;j<k;j++)
        {
            if(c[j]==a[i])
```

```

        break;
    }
    if(j==k) //if not repesated then store value in set c
    {
        c[k]=a[i];
        k++;
    }
}
// copy element of set B in set C
for(i=0;i<n2;i++)
{
    // check for repeted element
    for(j=0;j<k;j++)
    {
        if(c[j]==b[i])
            break;
    }
    if(j==k) // if element is not repeted then store in set C
    {
        c[k]=b[i];
        k++;
    }
}
// printing of union of set A and set B
printf("Union of set A and B is:-\n");
for(i=0;i<k;i++)
    printf("%d ",c[i]);
}

```

## **OUTPUT**

```

/tmp/5ylYG312gS.o
Garima Bhattarai
Enter number of element of set A
2
Enter the element of set A
1 2
Enter number of element of set B
2
Enter the element of set B
3 4
Union of set A and B is:-
1 2 3 4

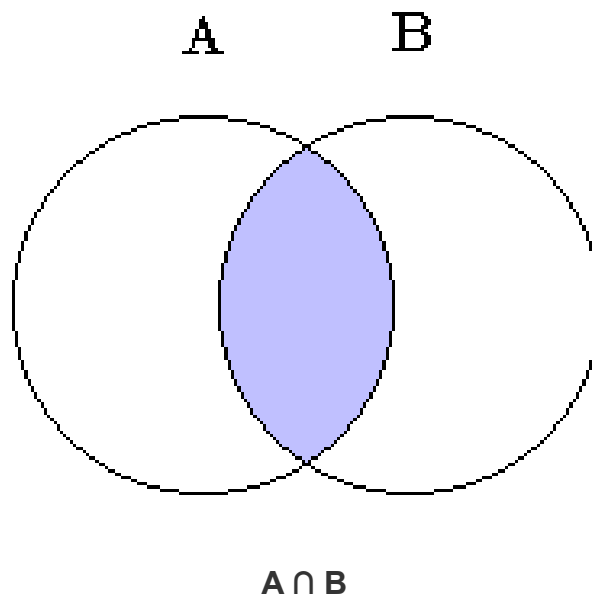
```

## Lab 02

### Title: Program to implement intersection of two sets

The intersection of sets for two given sets is the set that contains all the elements that are common to both sets. The symbol for the **intersection of sets** is " $\cap$ ". For any two sets A and B, the intersection,  $A \cap B$  (read as A intersection B) lists all the elements that are present in both sets, and are the common elements of A and B.

For example, if Set A = {1,2,3,4,5} and Set B = {3,4,6,8},  $A \cap B = \{3,4\}$ .



#### **Program**

```
#include<stdio.h>
int main()
{
    int a[100],b[100],c[100],n1,n2,n,k=0,i,j;

    // taking input of set A
    printf("Enter number of element of set A\n");
    scanf("%d",&n1);
    printf("Enter elements of set A\n");
    for(i=0;i<n1;i++)
        scanf("%d",&a[i]);

    // taking input set B

    printf("Enter number of element of set B\n");
    scanf("%d",&n2);
    printf("Enter elements of set B\n");
```

```

for( i=0;i<n2;i++)
    scanf("%d",&b[i]);

// Logic for intersection

for( i=0;i<n1;i++)
{
    for(j=0;j<n2;j++)
    {
        if(a[i]==b[j])
        {
            c[k]=a[i];
            k++;
        }
    }
}

// Printing the elements of intersection of set A and set B
printf("intersection of set A and set B is:-\n");
for(i=0;i<k;i++)
    printf("%d ",c[i]);

return 0;
}

```

## OUTPUT

```

C:\Program Files\Dev-Cpp>
Garima Bhattarai
Enter number of element of set A
3
Enter elements of set A
2 5 9
Enter number of element of set B
2
Enter elements of set B
5 7
intersection of set A and set B is:-
5

```