

4.1.1] Set Operations

ALGORITHM

Step 1: Start

Step 2: Input Set A

Step 3: Convert the input values into Set A

Step 4: Input Set B

Step 5: Convert the input values into Set B

Step 6: Find the Union of Set A and Set B

$$\text{Union} = A \mid B$$

Step 7: Find the Intersection of Set A and Set B

$$\text{Intersection} = A \& B$$

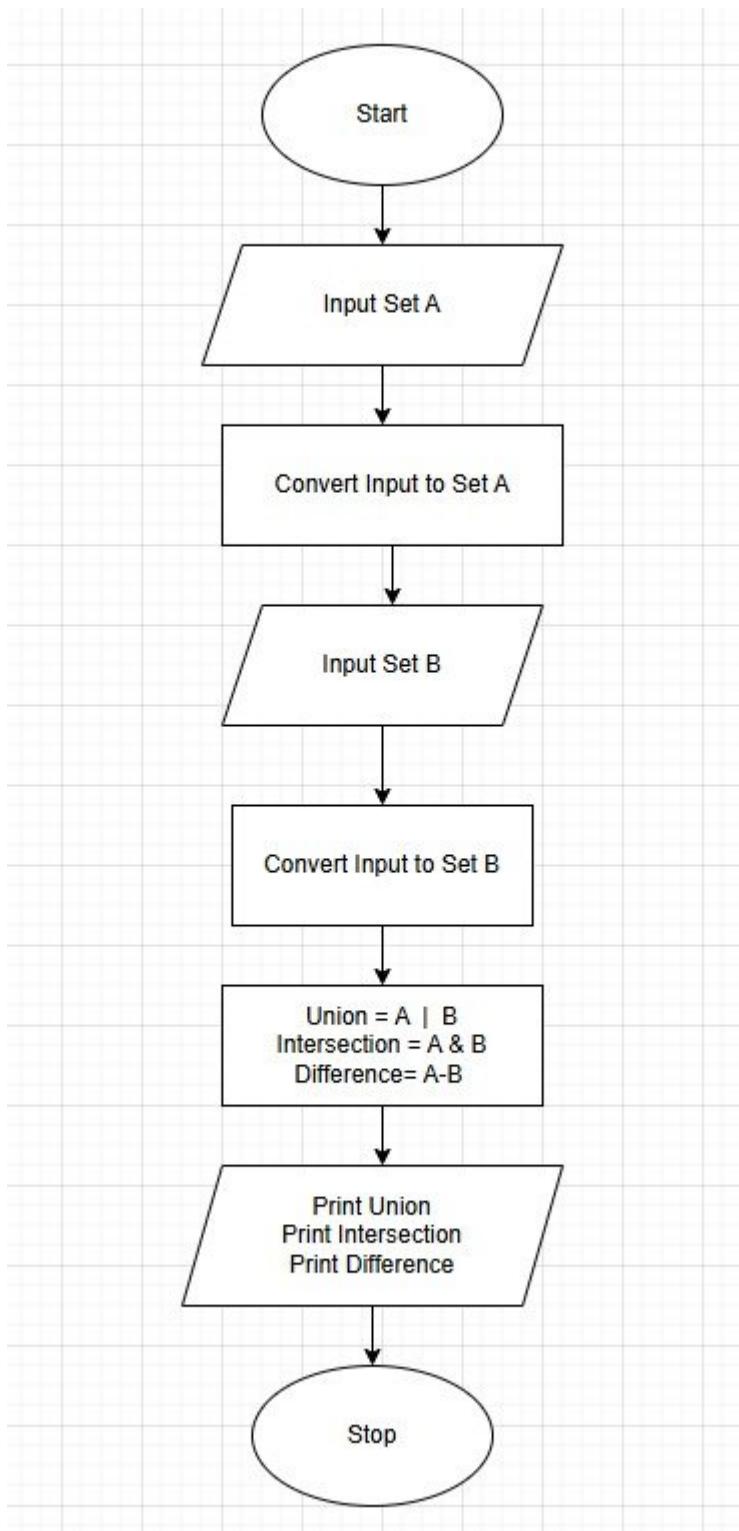
Step 8: Find the Difference of Set A and Set B

$$\text{Difference} = A - B$$

Step 9: Print Union, Intersection, and Difference

Step 10: Stop

FLOWCHART



PYTHON CODE

```
set_a = set(map(int, input("Set A: ").split()))
set_b = set(map(int, input("Set B: ").split()))
```

```
print("Union:", set_a | set_b)  
print("Intersection:", set_a & set_b)  
print("Difference:", set_a - set_b)
```

EXECUTION

The screenshot shows the CodeTantra IDE interface. The code editor contains a Python script named `setoperations...` with the following content:

```
# Type Content here.  
1 set = set(map(int,input("Set A: ").split()))  
2 set_b=set(map(int,input("Set B: ").split()))  
3 print("Union:", set_a|set_b)  
4 print("Intersection:", set_a&set_b)  
5 print("Difference:", set_a-set_b)
```

The submission status indicates "2 out of 2 shown test case(s) passed" with an average time of 0.000 s and a maximum time of 0.012 s.

The terminal output shows the results of the test cases:

```
Test case 1  
Expected output  
Set A: 1 2 3 4 5 6  
Set B: 3 4 5  
Union: {0, 1, 2, 3, 4, 5, 6}  
Intersection: {3, 4, 5}  
Difference: {0, 1, 2}  
Actual output
```

At the bottom, there are buttons for PREV, RESET, SUBMIT, and NEXT.