

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

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

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

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

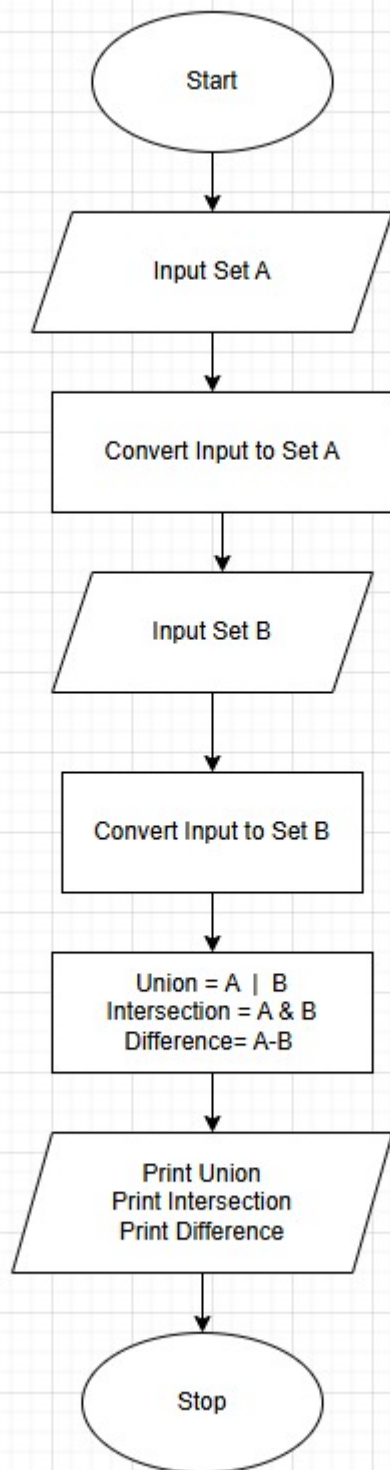
Step 8: Find the Difference of Set A and Set B

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

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

CODETANTRA

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harsh.ghaoghare.batch2025@sitnagpur.siu.edu.in Support Logout

4.1.1. Set Operations

14:40

Write a Python program to perform union, intersection and difference operations on *Set A* and *Set B*.

Input Format:

- First Line prompts "Set A: " followed by space-separated list of integers for *Set A*.
- The second input prompts "Set B: " followed by space-separated list of integers for *Set B*.

Output Format:

- The first line prints "Union: " followed by the union of *Set A* and *Set B*.
- The second line prints "Intersection: " followed by the intersection of *Set A* and *Set B*.
- The third line prints "Difference: " followed by the difference of *Set A* and *Set B*.

Note:

- If there is no intersection between the two sets, the program prints an empty set, which appears as "set()" in the output.
- Please refer to the visible test cases for better understanding.

Sample Test Cases

setoperat...

Submit

```

1 Set_A= set(map(int,input("Set A: ").split()))
2 Set_B= set(map(int,input("Set B: ").split()))
3 Union_Set=Set_A | Set_B
4 Intersection_Set=Set_A & Set_B
5 Difference_Set=Set_A - Set_B
6 print("Union:",Union_Set)
7 print("Intersection:",Intersection_Set)
8 print("Difference:",Difference_Set)

```

Average time

0.009 s

9.25 ms

Maximum time

0.013 s

13.00 ms

2 out of 2 shown test case(s) passed

2 out of 2 hidden test case(s) passed

Test case 1 15 ms

Debug

Expected output

Actual output

Set A: {0, 2, 4, 5, 8}

Set A: {0, 2, 4, 5, 8}

Set B: {1, 2, 3, 4, 5}

Set B: {1, 2, 3, 4, 5}

Union: {0, 1, 2, 3, 4, 5, 8}

Union: {0, 1, 2, 3, 4, 5, 8}

Intersection: {2, 4, 5}

Intersection: {2, 4, 5}

Difference: {0, 8}

Difference: {0, 8}

Terminal

Test cases

< Prev

Reset

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