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EX: 4.4.1 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

   Union = A | B

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

   Intersection = A & B

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

   Difference = A − B

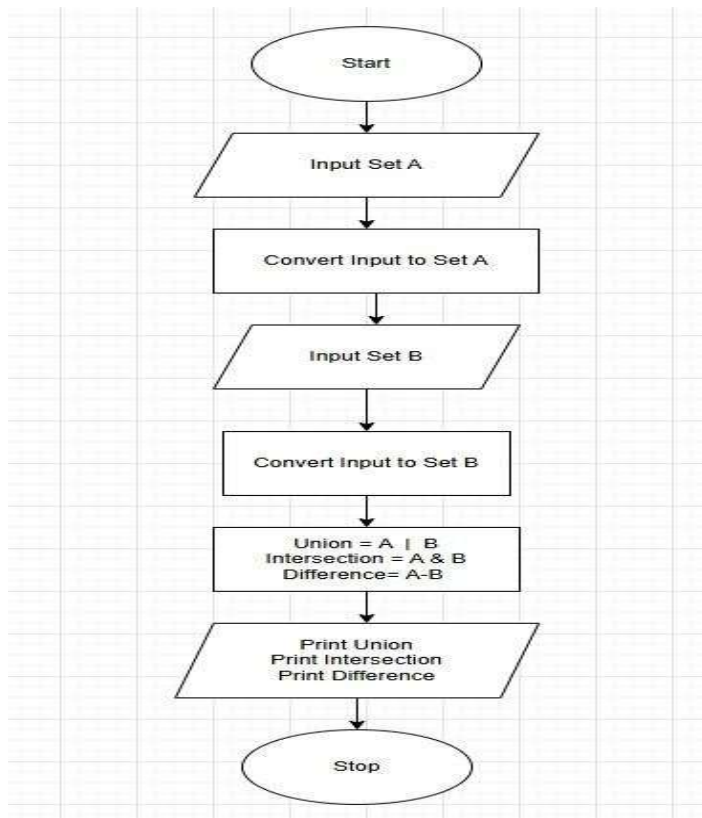Step 9: Print the Union, Intersection, and Difference

Step 10: Stop

#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)
```

Flowchart:

Start → **Input Set A** → **Convert Input to Set A** → **Input Set B** → **Convert Input to Set B** → **Union = A | B / Intersection = A & B / Difference= A-B** → **Print Union / Print Intersection / Print Difference** → **Stop**

4.1.1. Set Operations

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.

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


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


union_set = set_a | set_b
print("Union:", union_set)


intersection_set = set_a & set_b
print("Intersection:", intersection_set)

difference_set = set_a - set_b
print("Difference:", difference_set)
```

Average time	Maximum time	
0.008 s	**0.011 s**	✓ 2 out of 2 shown test case(s) passed
8.25 ms	11.00 ms	✓ 2 out of 2 hidden test case(s) passed

✓ **Test case 1** 11 ms

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}

Sample Test Cases +

Terminal   ⊞ Test cases

‹ Prev   Reset   Submit   Next ›

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