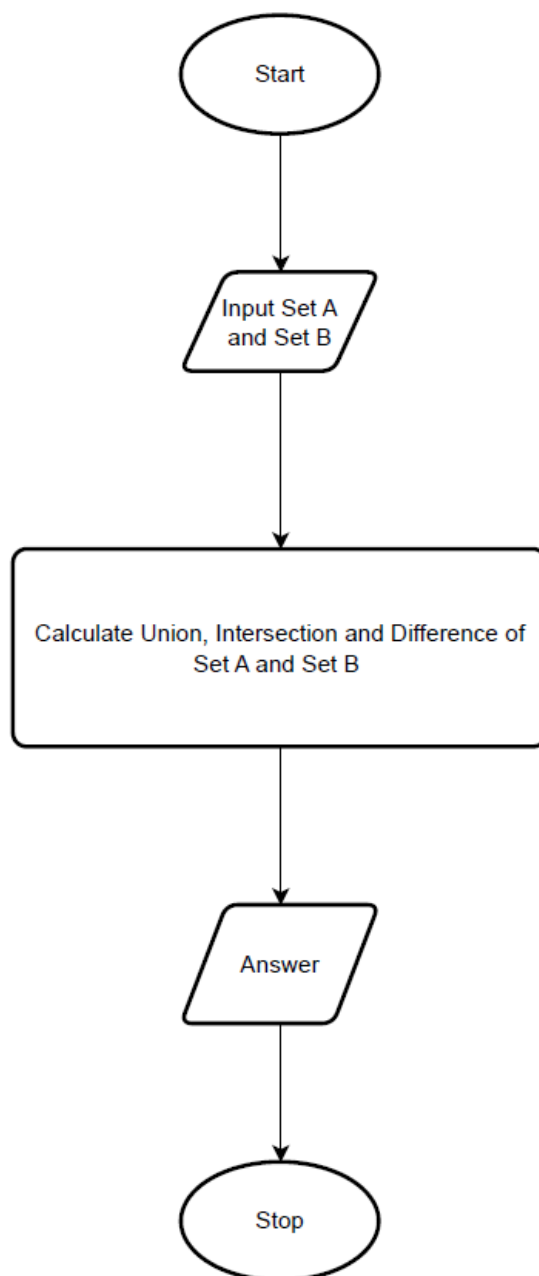4.1.1 Set Operations

Algorithm:

1. Start the program.
2. Read the space-separated integers for Set A and store them as a set.
3. Read the space-separated integers for Set B and store them as a set.
4. Find the union of Set A and Set B.
5. Find the intersection of Set A and Set B.
6. Find the difference of Set A and Set B and print all results.
7. Stop

```
          ┌─────────┐
          │  Start  │
          └────┬────┘
               │
               ▼
         ╱─────────────╲
        ╱  Input Set A  ╲
        ╲  and Set B    ╱
         ╲─────────────╱
               │
               ▼
     ┌───────────────────────────┐
     │  Calculate Union,         │
     │  Intersection and         │
     │  Difference of            │
     │  Set A and Set B          │
     └───────────┬───────────────┘
                 │
                 ▼
            ╱─────────╲
           ╱  Answer   ╲
           ╲───────────╱
                 │
                 ▼
            ┌─────────┐
            │  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.

Sample Test Cases

⌨ Debugger

📁 Explorer

🐍 setoperat...

🐍 setoperat...

```python
1   set_a = set(map(int, input("Set A: ").split()))
2   set_b = set(map(int, input("Set B: ").split()))
3
4   union_set = set_a | set_b
5   intersection_set = set_a & set_b
6   difference_set = set_a - set_b
7
8   print("Union:", union_set)
9   print("Intersection:", intersection_set)
10  print("Difference:", difference_set)
```

Average time
0.008 s
8.00 ms

Maximum time
0.009 s
9.00 ms

▶ Test case 1 8 ms

Expected output

Set A: 0 2 4 5 8
Set B: 1 2 3 4 5
Union: {0, 1, 2, 3, 4, 5, 8}
Intersection: {2, 4, 5}
Difference: {0, 8}

Actual output

Set A: 0 2 4 5 8
Set B: 1 2 3 4 5
Union: {0, 1, 2, 3, 4, 5, 8}
Intersection: {2, 4, 5}
Difference: {0, 8}

✅ 2 out of 2 shown test case(s) passed
✅ 2 out of 2 hidden test case(s) passed

🐞 Debug

▶ Terminal   ⊞ Test cases

< Prev   Reset   Submit   Next >