EXPERIMENT 4.1.1

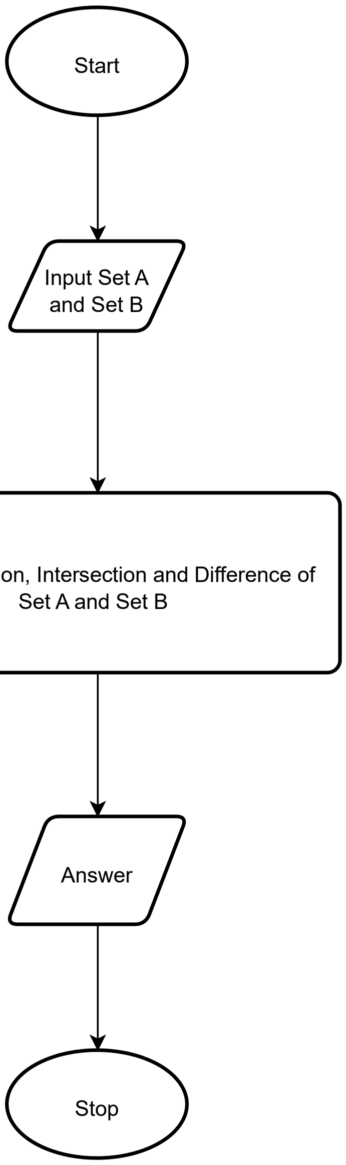
Algorithm:

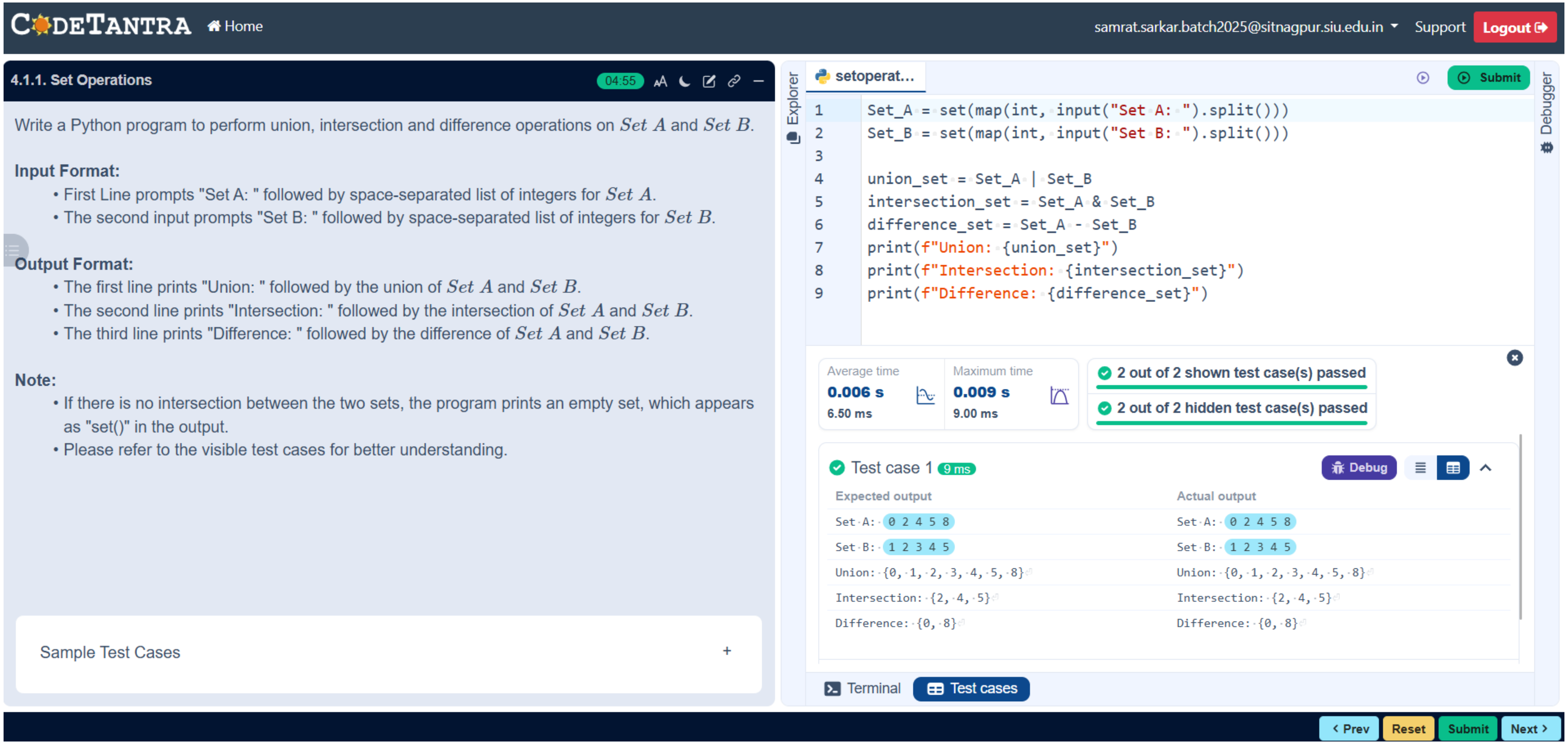
```
Step 1: Start.
Step 2: Input Set A and Set B.
Step 3: Calculate Intersection, Union and Difference of Set A and Set B.
Step 4: Display Intersection, Union and Difference.
Step 5: Stop.
```

Code:

```
        Set_A = set(map(int, input("Set A: ").split()))
        Set_B = set(map(int, input("Set B: ").split()))
        union_set = Set_A | Set_B intersection_set
        = Set_A & Set_B difference_set = Set_A -
        Set_B
print(f"Union: {union_set}") print(f"Intersection:
        {intersection_set}") print(f"Difference:
        {difference_set}")
```

FlowChart:


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 +

```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
intersection_set = Set_A & Set_B
difference_set = Set_A - Set_B
print(f"Union: {union_set}")
print(f"Intersection: {intersection_set}")
print(f"Difference: {difference_set}")
```

Average time 0.006 s 6.50 ms

Maximum time 0.009 s 9.00 ms

2 out of 2 shown test case(s) passed

2 out of 2 hidden test case(s) passed

Test case 1 9 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

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