

Experiment 04 - Exercise 08: Set Operations on Sample Sets

Tofik Ali

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Objective

Take two sets and apply various set operations.

Input

Two sets (use the sample sets given in the lab manual):

- $S1 = \{\text{Red, yellow, orange, blue}\}$
- $S2 = \{\text{violet, blue, purple}\}$

Output

Union, intersection, difference, and symmetric difference.

Approach

Use operators:

- $S1 \mid S2$ (union)
- $S1 \& S2$ (intersection)
- $S1 - S2, S2 - S1$ (difference)
- $S1 \sim S2$ (symmetric difference)

Time Complexity

$\Theta(n)$ average-case for set operations.