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FYCS A

PRACTICAL 6

6	Set Operations Perform operations on two sets of student names. • Create sets for two classes. • Find the union of both sets (students in either class). • Find the intersection (students common to both classes). • Find the difference (students unique to one class). • Check if a student is part of a set using membership operators.

'''Set Operations

Perform operations on two sets of student names.

● Create sets for two classes.

● Find the union of both sets (students in either class).

● Find the intersection (students common to both classes).

● Find the difference (students unique to one class).

● Check if a student is part of a set using membership operators.'''

```
# Take input for Class A students
class_A = set(input("Enter names for Class A students (separated by spaces): ").split())

# Take input for Class B students
class_B = set(input("Enter names for Class B students (separated by spaces): ").split())

print("\nClass A Students:", class_A)
print("Class B Students:", class_B)

# Union - students in either class
union_students = class_A | class_B
```

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```
print("\nUnion (Either Class):", union_students)


# Intersection - students common to both classes
common_students = class_A & class_B
print("Intersection (Common Students):", common_students)


# Difference - students unique to Class A
unique_A = class_A - class_B
print("Difference (Only in Class A):", unique_A)


# Difference - students unique to Class B
unique_B = class_B - class_A
print("Difference (Only in Class B):", unique_B)


# Membership check
student_name = input("\nEnter a name to check in Class A: ")
if student_name in class_A:
    print(f"{student_name} is in Class A")
else:
    print(f"{student_name} is NOT in Class A")


student_name = input("Enter a name to check in Class B: ")
if student_name in class_B:
    print(f"{student_name} is in Class B")
else:
    print(f"{student_name} is NOT in Class B")
```

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```
>>>
= RESTART: C:/Users/admin/Documents/PCACS PYTHON/PRACTICAL 6 PYTHON PROGRAMMING
FY BSc. COMPUTER SCIENCE-C 1400. KRISHNA KAMLESH SINGH.py
Enter names for Class A students (separated by spaces): KRISHNA RAM LUV
Enter names for Class B students (separated by spaces): NAMAN SIYA RAHUL

Class A Students: {'KRISHNA', 'RAM', 'LUV'}
Class B Students: {'RAHUL', 'SIYA', 'NAMAN'}

Union (Either Class): {'RAHUL', 'LUV', 'SIYA', 'KRISHNA', 'RAM', 'NAMAN'}
Intersection (Common Students): set()
Difference (Only in Class A): {'KRISHNA', 'RAM', 'LUV'}
Difference (Only in Class B): {'RAHUL', 'NAMAN', 'SIYA'}

Enter a name to check in Class A: RAM
RAM is in Class A
Enter a name to check in Class B: SIYA
SIYA is in Class B
>>>
```