**IS201 Fundamentals of Computing**

**PE04 Dictionaries and set**

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**Before You Start**

* If you have questions about the lab requirements, please ask a TA to clarify for you.
* If you are not sure what to do:
  1. Consult the resources listed below.
  2. If you cannot solve the problem after a few tries, ask a TA for help.

**Lab Tasks**

* Write Python programs to complete the given task

1) Write a Python script to concatenate following dictionaries to create a new one.

Sample Dictionary :  
dic1={1:10, 2:20}  
dic2={3:30, 4:40}  
dic3={5:50,6:60}  
Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

2) Write a Python script to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x\*x).

Sample Dictionary ( n = 5) :  
Expected Output : {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

3) Write a Python program to combine two dictionary adding values for common keys.

Sample Dictionary:  
d1 = {'a': 100, 'b': 200, 'c':300}  
d2 = {'a': 300, 'b': 200, 'd':400}  
Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

4) Write a Python program to print all unique values in a dictionary.

Sample Data : [{"V":"S001"}, {"V": "S002"}, {"VI": "S001"}, {"VI": "S005"}, {"VII":"S005"}, {"V":"S009"},{"VIII":"S007"}]  
Expected Output : Unique Values: {'S005', 'S002', 'S007', 'S001', 'S009'}

5) Write a Python program to match key values in two dictionaries.

Sample dictionary: {'key1': 1, 'key2': 3, 'key3': 2}, {'key1': 1, 'key2': 2}  
Expected output: key1: 1 is present in both x and y