Faculty of Technology and Engineering

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Practical List

Academic Year	:	2021-22	Semester	:	4
Course code	:	CE259	Course name	:	Programming in Python

Note: Practical List is for Students. We need to cover concept require to implement respective practical

Sr. No.	Aim	CO
1.	Installation & Configuration of Python(**3.6 or 3.7**) and Virtual Environment. Along with its all major editors, IDLE, Pycharm, Anaconda, Jupyter, Interpreter etc. **Note: Do not install the latest version of python due to some backward compatibility issues.**	1,2
2.	**Dictionary** a. Write a Python script to check whether a given key already exists in a dictionary. b. Write a Python script to merge two Python dictionaries. c. Write a Python program to sum all the items in a dictionary. d. Write a Python script to add a key to a dictionary. Sample Dictionary : {0: 10, 1: 20} Expected Result : {0: 10, 1: 20, 2: 30} e. Write a Python script to concatenate the 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} **Tuple** a. Write a Python program to create a tuple with different data types. b. Write a Python program to create a tuple with numbers and print one item. c. Write a Python program to add an item in a tuple. d. Write a Python program to convert a tuple to a string. e. Write a Python program to find the length of a tuple. **Set** a. Write a Python program to add member(s) in a set and clear a set	1,2

	b. Write a Python program to remove an item from a set if it is present in the set. c. Write a Python program to create an intersection, Union, difference of sets. d. Write a Python program to find maximum and the minimum value in a set. 4. Write a Python program to find the most common elements and their counts from list, tuple, dictionary.	
3.	Find Captain Room Number **Sample Input** 5 1 2 3 6 5 4 4 2 5 3 6 1 6 5 3 2 4 1 2 5 1 4 3 6 8 4 3 1 5 6 2 **Sample Output** 8 **Explanation:** The list of room numbers contains 31 elements. Since K is 5, there must be 6 groups of families. In the given list, all of the numbers repeat 5 times except for room number 8. Hence, 8 is the Captain's room number.	1,2
4.	Find runner-up from given list **Sample Input** 5 2 3 6 6 5 **Sample Output** 5 **Explanation:** Given list is **[2,3,6,6,5]**. The maximum score is **6**, second maximum is **5**. Hence, we print **5** as the runner-up score.	1,2
5.	You are given a string and your task is to swap cases. In other words, convert all lowercase letters to uppercase letters and vice versa. **Sample Input:** HackerRank.com presents "Pythonist 2". **Sample Output:** hACKERrANK.COM PRESENTS "pYTHONIST 2".	1,2
6.	You are given ***n*** words. Some words may repeat. For each word, output its number of occurrences. The output order should correspond with the input order of appearance of the word. See the sample input/output for clarification. **Sample Input** 4 bcdef abcdefg bcde bcdef **Sample Output** 3 2 1 1 **Explanation:** There are 3 distinct words. Here, "bcdef" appears twice in the input at the first and last positions. The other words appear once each. The order of the first appearances are "bcdef", "abcdefg" and "bcde" which corresponds to the output.	1,2
7.	Lapindrome is defined as a string which when split in the middle, gives two halves having the same characters and same frequency of each character. If there	1,2

	are odd number of characters in the string, we ignore the middle character and check for lapindrome. For example ***gaga*** is a lapindrome, since the two halves ***ga*** and ***ga*** have the same characters with same frequency. Also, ***abccab***, ***rotor*** and ***xyzxy*** are a few examples of lapindromes. Note that abbaab is NOT a lapindrome. The two halves contain the same characters but their frequencies do not match. Your task is simple. Given a string, you need to tell if it is a lapindrome. **Input:** 6 gaga abcde rotor xyzxy abbaab ababc **Output:** YES NO YES YES NO NO	
8.	Implement following operation on Portable Document Format (PDF) 1. Extracting text from PDF 2. Rotating PDF pages 3. Merging PDFs 4. Splitting PDF 5. Adding watermark to PDF pages 6. Encrypting and decrypting PDF files	3
9.	Creating and sending emails using python 1. Sending a Plain-Text Email 2. Sending Fancy Emails 3. Sending Multiple Personalized Emails 4. Send HTML Email with Attachment	4
10.	Implement CRUD operation using Django Framework.	4