SET

1. If X = {2,4, 6, 8, 10,12,14,16,18,20} and
   Y = {1,3,6,9,12,15,18}.
   Using python sets X, Y write a script to find all elements i) that occur only in X but not in Y ii) that may occur X or Y iii). Print all elements that are common to X and Y iv) does Y contain all elements of X .v) X. pop() will return which element? vi) Add 21 to set Y vii) Delete 20 from X . viii) does 24' occur in Y?.ix) print all elements in X, one per new line. x) find the total elements in X and Y together
2. A recent survey has been made on the people reading various newspapers. Based on the survey, some group of people reading „The Hindu" and/or „Indian Express" have been considered. Assume *cluster A* is reading „The Hindu" and
   cluster B is reading „Indian Express".
   Use a suitable sequence data type to compute the following task such as:
   - People reading both the newspapers
   - People reading either of newspapers
   - People reading only „The Hindu", but not „Indian Express"
   - People reading only „Indian Express", but not „The Hindu"

   Sample Input:
   Cluster A: {Aarthi, Lavanya, Rekha, Praveen, Sankar, Sai, Nirmal, Vignesh}
   Cluster B :{ Lavanya, Praveen, Priyanka, Janani, Nirmal, Karthik, Kishore, Gopi}
   sample output:
   (i) People reading both the newspapers are
   Lavanya
   Praveen
   Nirmal
3. Let X={'p','r','o','g','r','a','m','m','i','n','g', 'i','n',' p','y','t','h','o','n'}
   and Y={a,e,i,o,u}
   Using python sets X and Y, write scripts to find elements
   a) that occur only in X but not in Y
   b) that occur in X or Y.
   c) that occur in X and Y.
   d) Check whether X contains all elements of Y, if so print "All vowels are in X".
   e) Create a new set by deleting all vowels from X.
4. Sanjay and Rahul have a set of color crayons. Sanjay has Red, Blue, Green and Pink whereas Rahul has Green , Violet, Yellow, Blue and White. Write a Python script to find the colors they have in common. Print the colors that Rahul has but not Sanjay. Sanjay lost his Green color. Update this information.
5. Create the following three sets
   A = {squares less than 20}

B = {even numbers less than 20}

C = {odd squares less than 20 }

i. Find the numbers which are both even number and squares less than 20

ii. Find the numbers which are even squares

iii. Find the resultant set of adding all the three set elements

iv. Without using union operator find the union of set A and B

v. Find the total count of elements in all the three sets.

vi. Check if number 14 occurs in set B. if so, print “yes” else “no”

vii. How an element 16 is removed from set A?

DICTIONARY

6. Write a Python program to print all unique values in a dictionary.
7. Write a Python program to get the top three items in a shop.
   Input : {'item1': 45.50, 'item2':35, 'item3': 41.30, 'item4':55, 'item5': 24}
   Output:
   item4 55
   item1 45.5
   item3 41.3
8. A vegetable vendor wishes to store the vegetables she sells in her shop along with the price/kg. She stores at the maximum five vegetable prices. Write a python script to achieve this. To this add a new vegetable with its price and also print the cost of ‘Brinjal’ - print ‘Zero’ if not available . Finally update the cost of ‘onion’
9. Write a Python program to match key values in two dictionaries.
   Input : x={'key1': 1, 'key2': 3, 'key3': 2}, y={'key1': 1, 'key2': 2}
   output: key1: 1 is present in both x and y
10. Write Python program to sort words in a sentence in decreasing order of their length. Display the sorted words along with their length.
11. Write a python program to input ‘n’ names and phone numbers to store it in a dictionary and to input any name and to print the phone number of that particular name.
12. Write a program to input ‘n’ employee number and name and to display all employee’s information in ascending order based upon their number.
13. Create a dictionary to store your friend’s name and their phone number. Write a python script with **output** to perform the following operations. .
    a) Display the name and phone number of all your friends
    b) Delete a particular friend from the dictionary
    c) Modify the phone number of an existing friend
    d) Display the dictionary in sorted order of names
14. Anjali wants to store the number of stamps she has collected for five different countries. Write a Python program to store all country names along with total number of stamps she has for that country using a dictionary. Print the number of

stamps she has for ‘Kenya’, if available, else print ‘No stamps for Kenya’. Anjali wants to update the stamp count for the country ‘China’ to 15. Also add a new country ‘Pakistan’ with total stamp count as 3 to the dictionary. Print the dictionary after updating these information.