**Sheet :- 7(Dictionary)**

**Q1.Frequency of Number**

Given N array elements . Find the frequency of element in array. (Solve it by using dictionary.)

Input 1:

A =  [2, 6, 3, 8, 2, 8, 2, 3, 8, 8]

B = 2

Output 1:

3

**Q2.Find the first non-repeating element**

Given N array elements . Find the first non-repesting element

Input 1:

A = [1, 2, 3, 1, 2, 5]

Output 1:

3

**Q3. Check Palindrome**

Given a string A consisting of lowercase characters.

Check if characters of the given string can be rearranged to form a palindrome.

Print 1 if it is possible to rearrange the characters of the string A such that it becomes a palindrome else print 0.

Example Input

Input 1:

A = "abcde"

Input 2:

A = "abbaee"  
  
Example Output

Output 1:

0

Output 2:

1

Example Explanation

Explanation 1:

No possible rearrangement to make the string palindrome.

Explanation 2:

Given string "abbaee" can be rearranged to "aebbea" to form a palindrome.

**Q4. First Repeating element**

Given an integer array A of size N, find the first repeating element in it.

We need to find the element that occurs more than once and whose index of the first occurrence is the smallest.

If there is no repeating element, print -1.

Example Input

Input 1:

A = [10, 5, 3, 4, 3, 5, 6]

Input 2:

A = [6, 10, 5, 4, 9, 120]

Example Output

Output 1:

5

Output 2:

-1

Example Explanation

Explanation 1:

5 is the first element that repeats

Explanation 2:

There is no repeating element, output -1

**Q5. Merge two Python dictionaries into one**

Input 1:

dict1 = {'Ten': 10, 'Twenty': 20, 'Thirty': 30}

dict2 = {'Thirty': 30, 'Fourty': 40, 'Fifty': 50}

Output 1:

{'Ten': 10, 'Twenty': 20, 'Thirty': 30, 'Fourty': 40, 'Fifty': 50}

**Q6**.**Check if a value exists in a dictionary**

Input 1:

dict1 = {'a': 100, 'b': 400, 'c': 300}

Output 1:

400 present in a dict

**Q7.Iterate through the keys in the dictionary.**

Input 1:

person = {"name": "abc", "age": 25}

Output 1:

name

age

**Q8.Iterate through the values in the dictionary.**

Input 1:

person = {"name": "abc", "age": 25}

Output 1:

abc

25

**Q9 .Iterate through both keys and  values in the dictionary.**

Input 1:

person = {"name": "abc", "age": 25}

Output 1:

name abc

age 25

**Q10.Remove all elements from a dictionary.**

Input 1:

person = {"name": "abc", "age": 25}

Output 1:

{}

**Q11.Get a list of all keys in a dictionary.**

Input 1:

person = {"name": "abc", "age": 25}

Output 1:

[‘name’ , ‘age’]

**Q12.Get a list of all values in a dictionary.**

Input 1:

person = {"name": "abc", "age": 25}

Output 1:

[‘abc’ , 25’]

**Q13. Generate a dictionary**

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

Input 1:

N=5

Output 1:

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

**Q14. Create a list of tuples from the dictionary**

Input 1:

dict1 = { 1: 'a', 2: 'b', 3: 'c' }

Output 1:

[(1, 'a'), (2, 'b'), (3, 'c')]

**Q15.Write a code to sort dictionaries using a key.**

Input 1:

{2: ‘Apple’, 1:’Mango’, 3:’Orange’, 4:’Banana’}

Output 1:

1 Mango

2 Apple

3 Orange

4 Banana

**Q16. Common Elements**

Given two integer arrays, A and B of size N and M, respectively. Your task is to find all the common elements in both the array.

NOTE:

* Each element in the result should appear as many times as it appears in both arrays.
* The result can be in any order.

Example Input

Input 1:

A = [1, 2, 2, 1]

 B = [2, 3, 1, 2]

Input 2:

A = [2, 1, 4, 10]

B = [3, 6, 2, 10, 10]

Example Output

Output 1:

[1, 2, 2]

Output 2:

[2, 10]

Example Explanation

Explanation 1:

Elements (1, 2, 2) appears in both the array. Note 2 appears twice in both the array.

Explantion 2:

Elements (2, 10) appears in both the array.

**Q17. list of squares**

WAP a Program to Generate a list of squares using list  comprehensions.

Output 1

[1, 4, 9, 16, 25]

**Q18. Filter even numbers**

WAP a Program to Filter even numbers using list  comprehensions.

Output 1

[2, 4, 6, 8, 10]

**Q19.List of uppercase characters**

 WAP a Program to Create a using list  comprehensions

Input 1:

text = "hello"

Output 1:

['H', 'E', 'L', 'L', 'O']

**Q20.Find the output:-**

a = 4

print(type(a))

a = 4,

print(type(a))

a = (4)

print(type(a))

a = ()

print(type(a))

a = (4,)

print(type(a))

a = (4,5)

print(type(a))