Information Retrieval and Web Analytics-IT3041

Semester 2 - 2022

Practical Sheet 01

Write python code to do the followings.

1). Concatenate two lists index-wise

teams = ["India", "England", "NZ", "Aus"]
captains = ["Kohli","Root","Williaamson", "Smith"]

Answer1: `[('India', 'Kohli'), ('England', 'Root'), ('NZ', 'Williaamson'), ('Aus', 'Smith')]`

Answer2: `{'India': 'Kohli', 'England': 'Root', 'NZ': 'Williaamson', 'Aus': 'Smith'}`

2) Given a list of books, their prices, and the quantities that you purchased, print out the total amount spent on each item.

books= ["textbooks", "exercise books", "story book", "drawing books"]

prices = [100,60,90,70]

quantities = [3,2,1,4]

Answer:

```
You bought 3 textbooks for $300
You bought 2 exercise books for $120
You bought 1 story book for $90
You bought 4 drawing books for $280
```

3) Given a Python list. Add 10 to each item of the list 1.

List 1 = [2,4,6,8,10]

Answer: `[12, 14, 16, 18, 20]`

4) Given a two Python list. Write a program to iterate both lists simultaneously and display items from list1 in original order and items from list2 in reverse order

list1 = [10, 20, 30, 40]

list2 = ["Apples", "Mangoes", "Oranges", "Grapes"]

Answer:

```
10 Grapes
20 Oranges
30 Mangoes
40 Apples
```

5) Given a nested list extend it with adding sub list ["h", "i", "j"] in a such a way that it will look like the following list

list1 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]

sub_list = ["h", "i", "j"]

Answer1:

```
['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n
']
```

Answer2:

```
['a', 'b', ['c', ['d', 'e', ['f', 'g', ['h', 'i', 'j']], 'k'], 'l'], 'm',
'n']
```

6) Given a Python list, write a program to remove all occurrences of item 15.

List1= [10,15,20,15,32,54,15]

Answer = [10,20,32,54]

7) Merge following two Python dictionaries into one

dict_1 = {'John': 15, 'Rick': 10, 'Misa': 12}

dict_2 = {'Bonnie': 18,'Rick': 20,'Matt': 16}

Answer: `{'John': 15, 'Rick': 20, 'Misa': 12, 'Bonnie': 18, 'Matt': 16}`

8) Change the key of the first entry from 0 to 4 in the following dictionary

d = {0: 0, 1: 1, 2: 2, 3: 3}

Answer = {1: 1, 2: 2, 3: 3, 4: 0}

9) Theses two lists convert it into the dictionary

country=["USA","France","India"]

capital= ["Washington D.C.","Paris","New Delhi"]

Answer= `{'USA': 'Washington D.C.', 'France': 'Paris', 'India': 'New Delhi'}`

10) Delete set of keys from Python Dictionary

```
My_dict = {"Fruit": "Pear",
       "Vegetable": "Carrot",
       "Pet": "Cat",
       "Book": "Moby dick",
       "Crystal": "Amethyst"}

keysToRemove = ["Book", "Crystal"]
```

`Answer = {'Fruit': 'Pear', 'Vegetable': 'Carrot', 'Pet': 'Cat'}`

11) Create a new dictionary by extracting the following keys from a given dictionary

sub_dict = {'math' : 100, 'chem' : 98, 'sci' : 100,'eng':100}

key_to_extract = {'math', 'chem','sci'}

Answer= `extracted key-value from dictionary: {'math': 100, 'sci': 100, 'chem': 98}`

12) Given a list iterate it and display numbers which are divisible by 5.

list1 = [12, 15, 32, 42, 55, 75, 122, 132, 150, 180, 200]

answer: `[15, 55, 75, 150, 180, 200]`

13) Write a program to display only those numbers from a list that satisfy the following conditions

- The number must be divisible by five
- If the number is greater than 150, then skip it and move to the next number
- If the number is greater than 500, then stop the loop

numbers = [12, 75, 150, 180, 145, 525, 50]

answer:

```
75
150
145
```

14) Write a Python program to count Uppercase, Lowercase, special character and numeric values in a given string.

Original Substrings = "@W3Resource.Com"

Answer:

Upper case characters: 3

Lower case characters: 9

Number case: 1

Special case characters: 2

15) Write a program to calculate the sum of series up to n term. For example, if n =5 the series will become 2 + 22 + 222 + 2222 + 22222 = 24690

Answer =

```
  2+22+222+2222+22222+
Sum of above series is: 24690
```