Python Assignment Questions

Questions on String

Let's take the following string

string = " I am very keen in building up my career in Data Science, but not sure from where to start. If I search the web it throws me thousands of articles, few are relevant others make me confused, again I come around to the same page. Supervised has provided me a good platform to remove all such qualms which were wrangling in my mind"

1. Consider the above text as a string, figure out the average length of the string.

   ```
   string_split = string.split()
   sum([len(word) for word in string_split])/len(string_split)
   ```

2. Lower the text in the string.

   ```
   string.lower()
   ```

3. Try to get the clean text removing the punctuation from the string.

4. Extract word "Data Science" from the string.

   ```
   str_find = string.find('Data Science')
   string[:str_find] + string[str_find+12:]
   ```

5. Find the frequency of words used in the string.

   ```
   string_split = string.split()
   {word:string_split.count(word) for word in string_split}
   ```

6. Fetch the duplicate pairs used in the string.

   ```
   string_split = string.split()
   [word for word in string_split if string_split.count(word) == 2]
   ```

7. Can you change the word "Supervised" to " " in the string

   ```
   string.replace('Supervised', 'Unsupervised')
   ```

8. Splitting of the string with a dot operator(.)

    string.split('.')

9. Find the words from the string which ends with "e"

    string_split = string.split()
    [word for word in string_split if word.endswith('e')]

10. Figure out number of a's used in the string.

    string.count('a')

Questions on Dictionary

In the weekend , I purchased 250g of apple, 500g of sugar, 2.5 kg of rice, 2.5 litres of milk and finally 1 dozen of egg.

1. Can you help me frame the above purchase in the form of dictionary with commodities as keys to it.

    dict = {'apple':0.25, 'sugar':0.5,'rice':2.5,'milk':2.5,'egg':1}

2. I forgot to mention another item, 1kg of atta packet. Can you also add it ?

    dict.update({'atta':1})

3. Instead of 2.5kg of rice, I bought only 1kg of rice. Can you change the corresponding value ?

    dict['rice'] = 1

4. Can you list out all these items using a loop.

    item_list = [item for item in dict.keys()]

However, the cost of 1 kg apple is Rs.220, 1 kg of sugar is Rs.43, 1 Kg of rice is Rs. 45, 1 litre of milk is Rs.30 and 1 dozen of egg is Rs. 60.

Create another dictionary for pricing.

    dict_price = {'apple':220,'sugar':43,'rice':45,'milk':30,'egg':60}

Thereby, prepare a bill for me of the overall cost of the total commodities purchased by using two dictionaries !

    price = 0
    for item in dict_price.keys():
        price = price + dict_price[item]*dict[item]
    print(price)

Questions on List

```
Listed are the top AI companies in the world

AI_companies = ['Amazon', 'Facebook', 'HiSilicon', 'Google', 'Apple', 'Microsoft', 'SenseTime']
```

1. Sort the list in ascending order

   AI_companies.sort()

2. Add multiple companies at once 'Nvidia', 'OpenAI' , 'Qualcomm' and 'Reliance' to the list

   AI_companies.extend(['Nvidia','OpenAI','Qualcomm','Reliance'])

3. Lower the list using List comprehension

   [name.lower() for name in AI_companies]

4. Eliminate 'Reliance' from the list

   AI_companies.remove('Reliance')

5. Extract 'Facebook', 'Google' and 'Microsoft' using a single command

   [name for name in AI_companies if name not in('Facebook','Google','Microsoft')]

Questions on Tuple

1. Consider the above standard price problem statement and place the prices in the form of the tuple.

   tup_price = ('220','43','45','30','60')

2. Find out the min and max price among them.

   min(tup_price)
   max(tup_price)

3. Also, convert the above "AI_companies" list to a tuple.

   tup_AI_companies = tuple(AI_companies)

4. Combine two above tuples to a single tuple.

   tup_combine = tup_price + tup_AI_companies

5. Compare the length of two tuples.

   if len(tup_AI_companies) > len(tup_price):
      print("tup_AI_companies is bigger")
   elif len(tup_AI_companies) < len(tup_price):
      print("tup_price is bigger")
   else:
      print("Both are same")