1

given a list , create dictionary with counts of unique elements that it contains input list = [‘a’,‘b’,‘a’,‘a’,‘b’,‘c’,‘c’,‘a’,‘b’] output dictionary = {‘a’:4,‘b’:3,‘c’:2} Hints :

- iterate over the list using a for loop
- for creating an empty dictionary : dict_name={}
- for adding a new element to dictionary: dict_name[‘element’]=value
- for getting keys of dictionary : dict_name.keys()
- for checking if an element is in the dictionary : element in dict_name.keys()
- for incrementing the value assigned to an element in a dictionary : dict_name[‘element’]+=1

2

write a function in python which replaces missing value in a list with mean of rest of the non missing values in the list

Hints:

- Create a list with missing values using following code

```
import numpy as np
x=[34,20,9,5,np.nan,43,67,99,np.nan]
```

- calculate mean using function mean and store it in an object
- using for loop or otherwise , replace missing values with value calculated above
- parametrise this process to convert it into a function

3

create a list of numbers between 1-200 which are (either divisible by 3 or 5 but not by both) and (not divisible by 7)

Hints :

- make use of range function to generate lists of numbers divisible by 3/5/7 (upto 200)
- convert these lists to sets
- use set functions to get the desired result

4

consider this list of addresses

[‘H-73, MDT, Powai , Mumbai’ , ‘1604, SS, Hyderabad’ ,‘B block 73, Adyar, Chennai’]

Extract cities from each address, use list comprehension .

Hints :

- Write list comprehension to convert this to list of lists [use split function on strings]

- Extract last element of each of these individual list using index -1, using list comprehension