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| Question 1: |
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Define a class with a generator which can iterate the numbers, which are divisible by 7, between a given range 0 and n.

class div\_generator:

def \_\_init\_\_(self,in\_num):

self.in\_num = in\_num

def get\_numbers(self):

for ele in range(0,self.in\_num+1):

if ele%7 == 0:

yield ele

output = div\_generator(350)

for ele in output.get\_numbers():

print(ele,end=' ')

Question 2:

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| Write a program to compute the frequency of the words from the input. The output should output after sorting the key alphanumerically. | | | | | | | | | | | | |
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| Suppose the following input is supplied to the program: | | | | | | | | | | | |
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| New to Python or choosing between Python 2 and Python 3? Read Python 2 or Python 3. | | | | | | | | | | | | |
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| Then, the output should be: | | | | | | | | | | |
|  | | | | | | | | | | |
| 2:2 |
|  |
| 3.:1 | |
|  | |
| 3?:1 | | | |
|  | | | |
| New:1 | | | | | |
|  | | | | | |
| Python:5 | | | | | | | |
|  | | | | | | | |
| [Read:1](read:1) | | | | | | |
|  | | | | | | |
| and:1 | | | | |
|  | | | | |
| between:1 | | | | | | | | |
|  | | | | | | | | |
| choosing:1 | | | | | | | | | |
|  | | | | | | | | | |
| or:2 | | |
|  | | |

to:1

def checkFrequency():

in\_string = input("Enter the Input String: ")

frequency = {}

for ele in in\_string.split(" "):

if(frequency.get(ele) == None):

frequency[ele] = 1

else:

frequency[ele] += 1

for ele in sorted(frequency):

print(f'{ele}:{frequency[ele]}',end=" ")

checkFrequency()

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| Question 3: | |
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Define a class Person and its two child classes: Male and Female. All classes have a method "getGender" which can print "Male" for Male class and "Female" for Female class.

class Person():

def getGender():

pass

class Male(Person):

def getGender():

print("Male")

class Female(Person):

def getGender():

print("Female")

Male.getGender()

Female.getGender()

Question 4:

Please write a program to generate all sentences where subject is in ["I", "You"] and verb is in ["Play", "Love"] and the object is in ["Hockey","Football"].

Question 5:

Please write a program to compress and decompress the string "hello world!hello world!hello world!hello world!".

import zlib

str = 'hello world!hello world!hello world!hello world!'

a = bytes(str, 'utf-8')

b = zlib.compress(a)

print(b)

print(zlib.decompress(b))

Question 6:

Please write a binary search function which searches an item in a sorted list. The function should return the index of element to be searched in the list.

from bisect import bisect\_left

def BinarySearch(a, x):

i = bisect\_left(a, x)

if i != len(a) and a[i] == x:

return i

else:

return -1

a = [1, 2, 4, 4, 8]

x = int(4)

res = BinarySearch(a, x)

if res == -1:

print(x, "is absent")

else:

print("First occurrence of", x, "is present at", res)