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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.

def generator(n):

for i in range(1,n+1):

if i % 7 == 0:

yield i

for i in generator(70):

print(i, 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: |
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| 2:2 |
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| 3.:1 |
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| 3?:1 |
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| New:1 |
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| Python:5 |
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| Read:1 |
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| and:1 |
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| between:1 |
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| choosing:1 |
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| or:2 |
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to:1

string = input("Enter a string : ")

def word\_freq(string):

words\_dict = {}

for word in string.split():

words\_dict[word] = words\_dict.get(word,0) + 1

for key in sorted(words\_dict):

print("{} : {}".format(key,words\_dict[key]))

word\_freq(string)

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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(object):

def \_\_init\_\_(self):

self.gender = "unknown"

def getGender(self):

print(self.gender)

class Male(Person):

def \_\_init\_\_(self):

self.gender = "Male"

class Female(Person):

def \_\_init\_\_(self):

self.gender = "Female"

ramini = Female()

Srinath = Male()

ramini.getGender()

Srinath.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"].

subjects=["I", "You"]

verbs=["Play", "Love"]

objects=["Hockey","Football"]

for i in range(len(subjects)):

for j in range(len(verbs)):

for k in range(len(objects)):

sentence = "%s %s %s." % (subjects[i], verbs[j], objects[k])

print(sentence)

Question 5:

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

import zlib

s =('hello world!hello world!hello world!hello world!')

t = zlib.compress(s)

print(t)

print(zlib.decompress(t))

Question 6:

import math

def bin\_search(li, element):

bottom = 0

top = len(li)-1

index = -1

while top>=bottom and index==-1:

mid = int(math.floor((top+bottom)/2.0))

if li[mid]==element:

index = mid

elif li[mid]>element:

top = mid-1

else:

bottom = mid+1

return index

li=[2,5,7,9,11,17,222]

print(bin\_search(li,11))

print(bin\_search(li,222))