Question 1:

Define a class with a generator which can iterate the numbers, which are divisible by

7, between a given range 0 and n.

A: def simple():

n=int(input())

for i in range(n):

if(i%7==0):

yield i

#Successive Function call using for loop

for i in simple():

print(i)

Question 2:

Write a program to compute the frequency of the words from the input. The output

should output after sorting the key alphanumerically.

Suppose the following input is supplied to the program:

New to Python or choosing between Python 2 and Python 3? Read Python 2 or

Python 3.

Then, the output should be:

2:2

3.:1

3?:1

New:1

Python:5

Read:1

and:1

between:1

choosing:1

or:2

to:1

A:

from collections import Counter

mylist = "New to Python or choosing between Python 2 and Python 3? Read Python 2 or Python 3."

mylist=mylist.split()

x=Counter(mylist)

d=dict(x)

print(sorted(d.items()))

Question 3:

Define a class Person and its two child classes: Male and Female. All classes have a

method &quot;getGender&quot; which can print &quot;Male&quot; for Male class and &quot;Female&quot; for Female

class.

A:

class parent:

def parent\_meth(self) :

return "this is a parent1 method"

class male(parent1):

def getgender(self):

return "male"

class female(parent1):

def getgender(self):

return "female"

var1=male()

var1.parent\_meth()

var1.getgender()

var2=female()

var2.parent\_meth()

var2.getgender()

Question 4:

Please write a program to generate all sentences where subject is in [&quot;I&quot;, &quot;You&quot;] and

verb is in [&quot;Play&quot;, &quot;Love&quot;] and the object is in [&quot;Hockey&quot;,&quot;Football&quot;].

A:

import gzip

s = b"hello world! hello world!hello world! hello world!"

s = gzip.compress(s)

print(s)

# using gzip.decompress(s) method

t = gzip.decompress(s)

print(t)

Question 5:

Please write a program to compress and decompress the string &quot;hello world!hello

world!hello world!hello world!&quot;.

A: def generate\_sentences(subjects,verbs,objects):

#start writing your code here

list=[]

for i in subjects:

for j in verbs:

for k in objects:

list.append(i+" "+j+" "+k)

return list

subjects=["I","You"]

verbs=["love", "play"]

objects=["Hockey","Football"]

print(generate\_sentences(subjects,verbs,objects))

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.

A:   
 def binary\_search(list1, n):

low = 0

high = len(list1) - 1

mid = 0

while low <= high:

# for get integer result

mid = (high + low) // 2

# Check if n is present at mid

if list1[mid] < n:

low = mid + 1

# If n is greater, compare to the right of mid

elif list1[mid] > n:

high = mid - 1

# If n is smaller, compared to the left of mid

else:

return mid

# element was not present in the list, return -1

return -1

# Initial list1

list1 = [12, 24, 32, 39, 45, 50, 54]

n = 45

# Function call

result = binary\_search(list1, n)

if result != -1:

print("Element is present at index", str(result))

else:

print("Element is not present in list1")