NAGESH_CODING_CHALLENGE_2—04/06/2020

Challenge-1:

Write a python program which accepts a sequence of comma separated 4 digit binary numbers as its input and then check whether they are divisible by 5 or not. The numbers that are divisible by 5 are to be printed in a comma separated sequence.

Example:

0100,0011,1010,1001

Then the output should be:

1010

Solution:

```
items = []
num = [x for x in input().split(',')]
for p in num:
    x = int(p, 2)
    if not x%5:
        items.append(p)
print(','.join(items))
```

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Challenge-2:

Write a python program that accepts a sentence and calculate the number of letters and digits.

Suppose the following input is supplied to the program:

hello world! 123

Then, the output should be:

LETTERS 10

DIGITS 3

Solution:

```
a=raw_input()
letters=0
digits=0
for c in a:
    if c.isdigit():
        digits = digits + 1
    else:
        letters=letters + 1

print "LETTERS" ,letters
print "DIGITS" ,digits
```

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Challenge-3:

Write a python 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

Solution:

```
import operator
text_line = input("Type in: ")
freq_dict = {}
for i in text_line.split(' '):
    if i.isalpha():
        if i not in freq_dict:
            freq_dict[i] = 1
        elif i in freq_dict:
            freq_dict[i] = freq_dict[i] + 1
    else:
        pass
sorted_freq_dict = sorted(freq_dict.items(), key = operator.itemgetter(0))
print(sorted_freq_dict)
for i in sorted_freq_dict:
    print(i[0], i[1])
```

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Challenge-4:

Define a class named Rectangle which can be constructed by a length and width. The Rectangle class has a method which can compute the area.

Solution:

```
class Rectangle():
    def __init__(self, l, w):
        self.length = l
        self.width  = w

    def rectangle_area(self):
        return self.length*self.width

newRectangle = Rectangle(12, 10)
print(newRectangle.rectangle_area())
```

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