Session_2

October 25, 2022

1 Session 2

1.1 Exercise 1:

Write a Python script to print the numbers within a given range where every number is divisible by every digit it contains.

1.1.1 Solution:

[15]:
```
def digits(x):
    res = []
    while x != 0:
        res.insert(0, x%10)
        x = x//10
    return res
```

[16]:
```
r = range(1, 100)
for i in r:
    d = digits(i)
    valid = True
    for j in d:
        if j != 0 and i % j != 0:
            valid = False
            break
    if valid:
        print('%2.0f -> %s' %(i, d))
```

```
 1 -> [1]
 2 -> [2]
 3 -> [3]
 4 -> [4]
 5 -> [5]
 6 -> [6]
 7 -> [7]
 8 -> [8]
 9 -> [9]
10 -> [1, 0]
11 -> [1, 1]
12 -> [1, 2]
```

```
15 -> [1, 5]
20 -> [2, 0]
22 -> [2, 2]
24 -> [2, 4]
30 -> [3, 0]
33 -> [3, 3]
36 -> [3, 6]
40 -> [4, 0]
44 -> [4, 4]
48 -> [4, 8]
50 -> [5, 0]
55 -> [5, 5]
60 -> [6, 0]
66 -> [6, 6]
70 -> [7, 0]
77 -> [7, 7]
80 -> [8, 0]
88 -> [8, 8]
90 -> [9, 0]
99 -> [9, 9]
```

1.1.2 Homework:

Write a Python script to print the numbers within a given list where every number is divisible by the sum of its digits.

[19]:
```
## Write your solution here ..
```

1.2 Exercise 2:

Write a Python program to count the occurrences of each word in a given sentence.

1.2.1 Solution:

[24]:
```
def word_count(str):
    counts = dict()
    words = str.split()
    for word in words:
        if word in counts:
            counts[word] +=1
        else:
            counts[word] = 1
    return counts

s = 'This is the solution of the exercise'
print(word_count(s))
```

```
{'This': 1, 'is': 1, 'the': 2, 'solution': 1, 'of': 1, 'exercise': 1}
```

[ ]: