1. Python program to find difference between current time and given time.

In [1]:
```
def difference(h1, m1, h2, m2):

    t1 = h1 * 60 + m1

    t2 = h2 * 60 + m2

    if (t1 == t2):
        print("Both are same times")
        return
    else:

        diff = t2-t1

    h = (int(diff / 60)) % 24

    m = diff % 60

    print(h, ":", m)

if __name__ == "__main__":

    difference(7, 20, 9, 45)
    difference(15, 23, 18, 54)
    difference(16, 20, 16, 20)
```

```
2 : 25
3 : 31
Both are same times
```

2. Python Program to Create a Lap Timer.

In [ ]:
```
import time

starttime=time.time()
lasttime=starttime
lapnum=1

print("Press ENTER to count laps.\nPress CTRL+C to stop")

try:
      while True:

          input()

          laptime=round((time.time() - lasttime), 2)

          totaltime=round((time.time() - starttime), 2)

          print("Lap No. "+str(lapnum))
          print("Total Time: "+str(totaltime))
          print("Lap Time: "+str(laptime))

          print("*"*20)

          lasttime=time.time()
          lapnum+=1

except KeyboardInterrupt:
      print("Done")
```

```
Press ENTER to count laps.
Press CTRL+C to stop

Lap No. 1
Total Time: 3.64
Lap Time: 3.64
********************

Lap No. 2
Total Time: 7.08
Lap Time: 3.44
********************
```

3. Convert date string to timestamp in Python.

In [3]:
```
import time
import datetime


string = "20/01/2020"

element = datetime.datetime.strptime(string,"%d/%m/%Y")

tuple = element.timetuple()
timestamp = time.mktime(tuple)

print(timestamp)
```

```
1579478400.0
```

4. How to convert timestamp string to datetime object in Python?

In [4]:
```
from datetime import datetime


timestamp = 1553367060
dt_obj = datetime.fromtimestamp(timestamp).strftime('%d-%m-%y')

print("date:",dt_obj)
```

```
date: 23-03-19
```

5. Find number of times every day occurs in a Year.

In [5]:
```
import datetime
import calendar

def day_occur_time(year):

    days = [ "Monday", "Tuesday", "Wednesday",
           "Thursday",  "Friday", "Saturday",
           "Sunday" ]

    L = [52 for i in range(7)]

    pos = -1
    day = datetime.datetime(year, month = 1, day = 1).strftime("%A")
    for i in range(7):
        if day == days[i]:
            pos = i

    if calendar.isleap(year):
        L[pos] += 1
        L[(pos+1)%7] += 1

    else:
        L[pos] += 1

    for i in range(7):
        print(days[i], L[i])

year = 2019
day_occur_time(year)
```

```
Monday 52
Tuesday 53
Wednesday 52
Thursday 52
Friday 52
Saturday 52
Sunday 52
```

6. Python Program to Check if String Contain Only Defined Characters using Regex.

In [6]:
```
import re


def check(str, pattern):

    if re.search(pattern, str):
        print("Valid String")
    else:
        print("Invalid String")

pattern = re.compile('^[1234]+$')
check('2134', pattern)
check('349', pattern)
```

```
Valid String
Invalid String
```

7. Python program to Count Uppercase, Lowercase, special character and numeric values using

Regex.

In [7]:
```
import re


string = "ThisIsGeeksforGeeks !, 123"

uppercase_characters = re.findall(r"[A-Z]", string)
lowercase_characters = re.findall(r"[a-z]", string)
numerical_characters = re.findall(r"[0-9]", string)
special_characters = re.findall(r"[, .!?]", string)

print("The no. of uppercase characters is", len(uppercase_characters))
print("The no. of lowercase characters is", len(lowercase_characters))
print("The no. of numerical characters is", len(numerical_characters))
print("The no. of special characters is", len(special_characters))
```

```
The no. of uppercase characters is 4
The no. of lowercase characters is 15
The no. of numerical characters is 3
The no. of special characters is 4
```

8. Python Program to find the most occurring number in a string using Regex.

In [8]:
```
import re
from collections import Counter

def most_occr_element(word):

    arr = re.findall(r'[0-9]+', word)

    maxm = 0

    max_elem = 0

    c = Counter(arr)

    for x in list(c.keys()):

        if c[x]>= maxm:
            maxm = c[x]
            max_elem = int(x)

    return max_elem

if __name__ == "__main__":
    word = 'geek55of55gee4ksabc3dr2x'
    print(most_occr_element(word))
```

```
55
```

9. Python Regex to extract maximum numeric value from a string.

In [12]:
```
import re

string='ab12cd123ef23'

number = re.findall('\d+', string)

number = map(int, number)
print("Max_value:",max(number))
```

```
Max_value: 123
```

10. Python Program to put spaces between words starting with capital letters using Regex.

In [15]:
```
import re
def capital_words_spaces(str1):
  return re.sub(r"(\w)([A-Z])", r"\1 \2", str1)

print(capital_words_spaces("Python"))
print(capital_words_spaces("PythonExercises"))
print(capital_words_spaces("PythonExercisesPracticeSolution"))
```

```
Python
Python Exercises
Python Exercises Practice Solution
```

In [ ]:
```

```