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

# Python program to find the

# difference between two times

# function to obtain the time

# in minutes form

def difference(h1, m1, h2, m2):

  # convert h1 : m1 into

  # minutes

  t1 = h1 \* 60 + m1

  # convert h2 : m2 into

  # minutes

  t2 = h2 \* 60 + m2

  if (t1 == t2):

    print("Both are same times")

    return

  else:

    # calculating the difference

    diff = t2-t1

  # calculating hours from

  # difference

  h = (int(diff / 60)) % 24

  # calculating minutes from

  # difference

  m = diff % 60

  print(h, ":", m)

# Driver's code

if \_\_name\_\_ == "\_\_main\_\_":

  difference(7, 20, 9, 45)

  difference(15, 23, 18, 54)

  difference(16, 20, 16, 20)

**output:**

2 : 25

3 : 31

Both are same times

1. **Python Program to Create a Lap Timer**

# importing libraries

import time

# Timer starts

starttime=time.time()

lasttime=starttime

lapnum=1

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

try:

  while True:

    # Input for the ENTER key press

    input()

    # The current lap-time

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

    # Total time elapsed

    # since the timer started

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

    # Printing the lap number,

    # lap-time and total time

    print("Lap No. "+str(lapnum))

    print("Total Time: "+str(totaltime))

    print("Lap Time: "+str(laptime))

    print("\*"\*20)

    # Updating the previous total time

    # and lap number

    lasttime=time.time()

    lapnum+=1

# Stopping when CTRL+C is pressed

except KeyboardInterrupt:

  print("Done")

**Output:**

Press ENTER to count laps.

Press CTRL+C to stop

1

Lap No. 1

Total Time: 93.26

Lap Time: 93.26

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

2

Lap No. 2

Total Time: 98.49

Lap Time: 5.23

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

3

Lap No. 3

Total Time: 100.25

Lap Time: 1.75

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

4

Lap No. 4

Total Time: 101.93

Lap Time: 1.68

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

5

Lap No. 5

Total Time: 106.29

Lap Time: 4.36

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

6

Lap No. 6

Total Time: 109.17

Lap Time: 2.88

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

1. **Convert date string to timestamp in Python**

# Python program to convert

# date to timestamp

import time

import datetime

string = "20/01/2020"

print(time.mktime(datetime.datetime.strptime(string,"%d/%m/%Y").timetuple()))

**Output:** 1579478400.0

1. **How to convert timestamp string to datetime object in Python?**

from datetime import datetime

timestamp = 1545730073

dt\_obj = datetime.fromtimestamp(1140825600)

print("date\_time:",dt\_obj)

print("type of dt:",type(dt\_obj))

**Output:** date\_time: 2006-02-25 00:00:00

type of dt: <class 'datetime.datetime'>

1. **Find number of times every day occurs in a Year**

# python program Find number of

# times every day occurs in a Year

import datetime

import calendar

def day\_occur\_time(year):

  # stores days in a week

  days = [ "Monday", "Tuesday", "Wednesday",

    "Thursday", "Friday", "Saturday",

    "Sunday" ]

  # Initialize all counts as 52

  L = [52 for i in range(7)]

  # Find the index of the first day

  # of the year

  pos = -1

  day = datetime.datetime(year, month = 1, day = 1).strftime("%A")

  for i in range(7):

    if day == days[i]:

      pos = i

  # mark the occurrence to be 53 of 1st day

  # and 2nd day if the year is leap year

  if calendar.isleap(year):

    L[pos] += 1

    L[(pos+1)%7] += 1

  else:

    L[pos] += 1

  # Print the days

  for i in range(7):

    print(days[i], L[i])

# Driver Code

year = 2019

day\_occur\_time(year)

**Output:**

Monday 52

Tuesday 53

Wednesday 52

Thursday 52

Friday 52

Saturday 52

Sunday 52

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

# \_importing module

import re

def check(str, pattern):

  # \_matching the strings

  if re.search(pattern, str):

    print("Valid String")

  else:

    print("Invalid String")

# \_driver code

pattern = re.compile('^[1234]+$')

check('2134', pattern)

check('349', pattern)

**Output:**

Valid String

Invalid String

1. **Python program to Count Uppercase, Lowercase, special character and numeric values using Regex**

import re

string = "ThisIsGeeksforGeeks !, 123"

# Creating separate lists using

# the re.findall() method.

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))

**Output:**

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

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

# your code goes here# Python program to

# find the most occurring element

import re

from collections import Counter

def most\_occr\_element(word):

  # re.findall will extract all the elements

  # from the string and make a list

  arr = re.findall(r'[0-9]+', word)

  # to store maxm frequency

  maxm = 0

  # to store maxm element of most frequency

  max\_elem = 0

  # counter will store all the number with

  # their frequencies

  # c = counter((55, 2), (2, 1), (3, 1), (4, 1))

  c = Counter(arr)

  # Store all the keys of counter in a list in

  # which first would we our required element

  for x in list(c.keys()):

    if c[x]>= maxm:

      maxm = c[x]

      max\_elem = int(x)

  return max\_elem

# Driver program

if \_\_name\_\_ == "\_\_main\_\_":

  word = 'geek55of55gee4ksabc3dr2x'

  print(most\_occr\_element(word))

**Output:** 55

1. **Python Regex to extract maximum numeric value from a string**

# Function to extract maximum numeric value from

# a given string

import re

def extractMax(input):

  # get a list of all numbers separated by

  # lower case characters

  # \d+ is a regular expression which means

  # one or more digit

  # output will be like ['100','564','365']

  numbers = re.findall('\d+',input)

  # now we need to convert each number into integer

  # int(string) converts string into integer

  # we will map int() function onto all elements

  # of numbers list

  numbers = map(int,numbers)

  print (max(numbers))

# Driver program

if \_\_name\_\_ == "\_\_main\_\_":

  input = '100klh564abc365bg'

  extractMax(input)

**Output:** 564

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

import re

def putSpace(input):

  # regex [A-Z][a-z]\* means any string starting

  # with capital character followed by many

  # lowercase letters

  words = re.findall('[A-Z][a-z]\*', input)

  # Change first letter of each word into lower

  # case

for i in range(0,len(words)):

  words[i]=words[i][0].lower()+words[i][1:]

print(' '.join(words))

# Driver program

if \_\_name\_\_ == "\_\_main\_\_":

  input = 'BruceWayneIsBatman'

  putSpace(input)

**Output:** bruce wayne is batman