

Big Data Programming 1: 2020 (25 Points)

Exercises: Coding Challenge 1

Due date: 12.Feb.2021 23:55

How to submit:

Each student must submit this assignment individually.

The exercise must be done in Python.

Zip all python file in a zip file. The zip file must be named
FirstName_LastName_assignment1_MatriculationNumber.zip

Exercise 1: (15 Points)

City Council for City 'X' has decided to test recovered patients of COVID-19 so that it can safely confirm that patients cured of the virus are not getting infected again. Given the huge number of tests City 'X' needs to do on all its inhabitants, the council has decided not to test all recovered patients but instead choose 1 random recovered patients in every recovered patient 5 . The list of the recovered patients is as below and can grow in future. The below list can be hard coded in your program:

```
[ 'p1', 'p2', 'p3', 'p4', 'p5', 'p6', 'p7', 'p8', 'p9', 'p10', 'p11', 'p12', 'p13', 'p14', 'p15',  
  'p16', 'p17', 'p18', 'p19', 'p20' ]
```

The batch size of 5 can change depending on whether City 'X' wants to do more or less testing. Before choosing the next patient, City 'X' also needs to record the test date as its an important paramter to know when the patient was tested. Only print the test date in your program

Write an object-oriented python program that helps City 'X' choose recovered patients for testing.

Hint

```
#Generate a random number  
import random  
# generate a random number between 0 and 100 : inclusive of 0 and 100  
random_number = random.randint(0,100)
```

Hint

```
#get the current date  
import datetime  
print(datetime.datetime.now())
```

Exercise 2: (10 Points)

The below code contains a logical error and prints 'None'. Make changes in the code to print 'from 3'

```
def function1(value):  
    return value  
  
def function2(func):  
    func()  
  
def function3():  
    return 'from 3'  
  
print(function1(function2(function3)))
```