**Homework for Week 4 (100 points)**

1. (20 points) Please write a program to use the functions in module random to randomly create a list:
2. The elements in the list should be integers
3. The length of the list should be 41

After the list is created, please compute the median and maximum of the list. (You can use any methods in a list)

* import random

print(random.randint(1,41))

import statistics

x=[1,41]

print(statistics.median(x))

y=max(x)

* print(y)

1. (20 points) A new student just came to our department and an administrator needs to create a user name and password for the student to access a PC. The username should be the first letter in the student’s first name + his last name+ three random digits. The student’s full name should be entered from the keyboard and the three digits should be created randomly. The password should be created randomly and should satisfy the following conditions:
   * The length of the password should be from 5 to 9
   * The first character should be a letter(upper case or lowercase)
   * inclusion of one or more numerical digits (‘0’,…., ‘9’)
   * inclusion of one or more upper-case letters (‘A’,…. ‘Z’)
   * inclusion of one or more lower-case letters (‘a’,…., ‘z’)
   * The last character should be a special character (@, #, $,%,!)

After the user name and password are created, please use print sentence to print them on the screen.

* Graphical user interface

  Description automatically generated with medium confidence

1. (20 points)In the Lecture, I adopted two lists:

Upper\_case\_set =['A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', \

'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', \

'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z']

Low\_case\_set=['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', \

'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', \

't', 'u', 'v', 'w', 'x', 'y', 'z']

Please write a program to create the above two lists without typing each letter into the lists by hand. Please print them on the screen.

(Notes: Use ord(), chr() function and for loop. e.g., ord(‘a’)=97, ord(‘z’)=122, ord(‘A’)=65, ord(‘Z’)=90. chr(97)=’a’, char(122)=’z’, char(65)=’A’, char(90)= ‘Z’))

Graphical user interface

Description automatically generated with medium confidence

1. (20 points) In the USA, a person can get one of the following three COVID-19 vaccines: Pfizer-BioNtech, Moderna, and Johnson & Johnson. A person already has got two Pfizer-BioNtech shots. Currently CDC suggests a person should get the third shot. For the third shot, if a person could select one of the three vaccines for the third shot, he could have three choices. Please write a program for the person to select one of the three vaccines randomly. Print out the choice on the screen. (notes: please use random module)

* import random

vaccines = ['Pfizer-BioNtech', 'Moderna','Johnson & Johnson']

print(random.choice(vaccines))

Graphical user interface

Description automatically generated with medium confidence

1. (20 points) Please use CMD command net user to create two other user accounts on your laptop. One is for your dad to use, the other is for your mom to use. When you create the two user accounts, please specify a password for each account. Please get the screen shots to show your work and insert the shots into this word file.

Text

Description automatically generated

(If you cannot work them out, please e-mail me and we can set up Zoom meeting)