

JLUFE

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## Homework Assignment Report

JILIN UNIVERSITY OF FINANCE AND ECONOMICS

College of Managment Science and Information Engineering

BSc in Data Science and Big Data Technology

(2021)

MODULE: Intelligent Technology

Homework Assignment: 06

Modules

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## Instructions:

1. I have added tips and required learning resources for each question, which helps you to solve the problems.
2. Finish the assignment on your **OWN**. **Any student find copying/sharing from classmates or internet will get '0' points!!!**
3. After  from → [GitHub Classroom link \(https://classroom.github.com/a/QtweKsi5\)](#), Github will create private repository of the assignment in your GitHub Classroom account.
4. In your repository  →  in your computer.
5. Change your → **College, Major, Name, Student number, Class number, QQ number and GitHub ID**
6. Once you finish the Assignment [convert your .ipynb file into PDF \(https://github.com/milaan9/91\\_Python\\_Mini\\_Projects/tree/main/001\\_Convert\\_IPython\\_to\\_PDF\)](#) (both **.ipynb** and **.pdf** file will be required!)
7. To submit your assignment, go to GitHub Classroom repository and  →  → 
  - A. Replace the question (**.ipynb**) file with your solution (**.ipynb**) file.
  - B. Also, upload (**.pdf**) converted file of your solution (**.ipynb**) file.

# Python Assignment 06

## Modules → Level 1, 2 & 3

**Note:** Please create new cell for each question

### Part A → Level 1

**Note:** Please create new cell for each question

1. Write a function which generates a six digit/character `random_user_id`.

- ```
print(random_user_id());  
'1ee33d'
```

2. Modify the previous task. Declare a function named `user_id_gen_by_user`. It doesn't take any parameters but it takes two inputs using `input()`. One of the inputs is the number of characters and the second input is the number of IDs which are supposed to be generated.

- ```
print(user_id_gen_by_user()) # user input: 5 5  
#output:  
#kcsy2  
#SMFYb  
#bWmeq  
#ZXOYh  
#2Rgxf
```
- ```
print(user_id_gen_by_user()) # 16 5  
#1GCSgPLMaBAVQZ26  
#YD7eFwNQKNs7qXaT  
#ycArC5yrRupyG00S  
#UbGxOFI7UXSWAyKN  
#dIVOSSUTgAdKwStr
```

3. Write a function named `rgb_color_gen`. It will generate rgb colors (3 values ranging from 0 to 255 each).

- ```
print(rgb_color_gen())  
#rgb(125,244,255) - the output should be in this form
```

In [10]:

```
# Solution:
# Solution:
import random
def random_user_id():
    id= ''
    all= 'abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890'
    for i in range(6):
        word= all[random.randint(0, len(all))]
        id= id + word
    return id

print(random_user_id())
```

ZxMDcH

In [9]:

```
def random_user_id(long):
    id= ''
    all= 'abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890'
    for i in range(6):
        word= all[random.randint(0, len(all)-1)]
        id= id + word
    print(id)
def user_id_gen_by_user():
    lenght= input("长度为: ")
    time= input("次数为: ")
    time= int(time)
    for i in range(time):
        random_user_id(lenght)

print(user_id_gen_by_user())
```

长度: 5

次数: 5

ps7GIX

IvqaT8

FatILh

Usidv0

Xwib1M

None

In [ ]:

```
def rgb_color_gen():
    m= '('
    for i in range(3):
        rgb= random.randint(0, 255)
        rgb= str(rgb)
        m= m+rgb
        if i<2:
            m= m+', '
    m= m+ '),'
    return m

print(rgb_color_gen())
```

## Part B → Level 2

**Note:** Please create new cell for each question

1. Write a function `list_of_hexa_colors` which returns any number of hexadecimal colors in an array (six hexadecimal numbers written after `#`. Hexadecimal numeral system is made out of 16 symbols, 0-9 and first 6 letters of the alphabet, a-f. Check the task 6 for output examples).
2. Write a function `list_of_rgb_colors` which returns any number of RGB colors in an array.
3. Write a function `generate_colors` which can generate any number of hexa or rgb colors.

- `generate_colors('hexa', 3)` # `['#a3e12f', '#03ed55', '#eb3d2b']`  
`generate_colors('hexa', 1)` # `['#b334ef']`  
`generate_colors('rgb', 3)` # `['rgb(5, 55, 175)', 'rgb(50, 105, 100)', 'rgb(15, 26, 80)']`  
`generate_colors('rgb', 1)` # `['rgb(33, 79, 176)']`

In [11]:

```
# Solution:
def hexa_colors():
    m= '#'
    all= '123456789abcdef'
    for i in range(6):
        m= m + all[random.randint(0, len(all)-1)]
    return m
def generate_colors(type, num):
    list= [ ]
    if type=='rgb':
        for i in range(num):
            m= 'rgb'
            m= m + rgb_color_gen()
            list.append(m)
        return list
    if type=='hexa':
        for i in range(num):
            m= hexa_colors()
            list.append(m)
        return list

print(generate_colors('hexa', 3))
print(generate_colors('hexa', 1))
print(generate_colors('rgb', 3))
print(generate_colors('rgb', 1))

['#d8e374', '#eeb65c', '#eb616e']
['#8bbca9']
['rgb(230, 251, 96)', 'rgb(16, 40, 162)', 'rgb(67, 19, 111)']
['rgb(163, 125, 121)']
```

## Part C → Level 3

**Note:** Please create new cell for each question

1. Call your function `shuffle_list`, it takes a list as a parameter and it returns a shuffled list

2. Write a function which returns an array of seven random numbers in a range of 0-9. All the numbers must be unique.

In [ ]:

```
# Solution:
def shuffle_list():
    all= ['1','2','3','4','5','6','7','8','9','0']
    list= ''
    for i in range(7):
        num= random.randint(0, len(all)-1)
        list= list + all[num]
        all.remove(all[num])
    return list

print(shuffle_list())
```