Practice

Enjoy^_^

1. Python Flow Control

1. Write a Python program to find those numbers which are divisible by 7 and multiples of 5, between 1500 and 2700 (both included).

```
mylist=[]
for i in range(1500,2701):
    if i%7==0 and i%5==0:
        mylist.append(str(i))
print(mylist)


['1505', '1540', '1575', '1610', '1645', '1680', '1715', '1750',
'1785', '1820', '1855', '1890', '1925', '1960', '1995', '2030',
'2065', '2100', '2135', '2170', '2205', '2240', '2275', '2310',
'2345', '2380', '2415', '2450', '2485', '2520', '2555', '2590',
'2625', '2660', '2695']
```

2. Write a Python program to guess a number between 1 and 9.

Note : User is prompted to enter a guess. If the user guesses wrong then the prompt appears again until the guess is correct, on successful guess, user will get a "Well guessed!" message, and the program will exit.

```
import random as random
secret=random.randrange(0,10)
guessed=int(input("Guess....☺"))
while(secret!=guessed):
    print("Try again")
    guessed =int(input())
print("congratultions!!!!")

Try again
Try again
Try again
```

```
Try again
Try again
Try again
congratultions!!!!
```

3. Write a Python program that prints all the numbers from 0 to 6 except 3 and 6.

Note : Use 'continue' statement. Expected Output : 0 1 2 4 5

```
for i in range (0,6):
    if i!=3:
     print(i, end=" ")
```

```
0 1 2 4 5
```

4. Write a Python program to construct the following pattern, using a nested for loop.

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

```
for i in range(0,10):
    if i<=4:
        for j in range(1,i+2):
            print("*", end=" ")
    else:
        for j in range(9-i):
            print("*", end=" ")
    print()
```

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
```

```
* *
*
```

5. Write a Python program that accepts a word from the user and reverses it.

```
word=input("Enter a word: ")
word=list(word)
for i  in range(len(word) - 1, -1,-1):
    print(word[i], end=" ")
```

```
k o o b
```

6. Write a Python program to count the number of even and odd numbers in a series of numbers

Sample numbers : numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)

Expected Output :

Number of even numbers : 4

Number of odd numbers : 5

```
even=0
odd=0
numbers=[1,2,3,4,5,6,7,8,9]
for  i in numbers:
    if i%2==0:
        even+=1
    else:
        odd+=1
print(f"Number of even numbers is:  {even} ")
print(f"Number of odd numbers is : {odd}  ")
```

```
Number of even numbers is:  4
Number of odd numbers is : 5
```

7. Write a Python program to print the the first alphabet pattern 'A-Z' in your name .

for example Expected Output:

```
  ***

 *   *

 *   *

 *****

 *   *

 *   *

 *   *
mydict={
    "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": """
 *****
     *
    *
   *
  *
 *
 *****


    """
}

name=input("What is your name")
name=list(name)
```

```
cap=[]
for i in name:
    cap.append(i.upper())
print(mydict[cap[0]])
```

```
  *   *
  ** **
  * * *
  *   *
  *   *
  *   *
  *   *
```

8. Write a Python program to construct the following pattern, using a nested loop number.

Expected Output:

```
1 22 333 4444 55555 666666 7777777 88888888 999999999
```

```
for i in range(1,10):
    for j in range(0,i):
     print(i , end=(""))
    print(" ", end=" ")
```

```
1  22  333  4444  55555  666666  7777777  88888888  999999999
```

9. Write a Python program to create the multiplication table (from 1 to 10) of a number.

Expected Output:

Input a number: 6
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48

6 x 9 = 54
6 x 10 = 60

```
num=int(input("Enter a number: "))
print(f"input number:{num}")
for i in range(1,11):
 print(f"{num}x{i}={num*i}")
```

```
input number:5
5x1=5
5x2=10
5x3=15
5x4=20
5x5=25
5x6=30
5x7=35
5x8=40
5x9=45
5x10=50
```

10. Write a Python program to calculate the sum and average of n integer numbers (input from the user). Input 0 to finish.

```
sum=0
n=0
num=int(input("enter a number: "))
while(num!=0):
    sum+=num
    n+=1
    num=int(input("enter a number: "))
print(f"Sum is {sum} and avarage is {sum/n}")
```

```
Sum is 45 and avarage is 5.0
```

11-Python Program to Print the Fibonacci sequence

The Fibonacci numbers are the numbers in the following integer sequence. 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, …….. In mathematical terms, the sequence Fn of Fibonacci numbers is defined by the recurrence relation.

$F_n = F_{n-1} + F_{n-2}$

with seed values : $F_0 = 0$ and $F_1 = 1$.

```
def fibo(n):
    if n == 0:
        return 0
    elif n == 1:
        return 1
    else:
        return fibo(n-1) + fibo(n-2)

for i in range(13):
    print(fibo(i), end=" ")
```

```
0 1 1 2 3 5 8 13 21 34 55 89 144
```

12. Simulating a Basic ATM Withdrawal

```
balance = 1000

amount = float(input("Enter the amount to withdraw: "))

if amount <= 0:
    print(" Invalid amount. Please enter a positive number.")
elif amount > balance:
    print(" Insufficient funds. Your balance is:", balance)
else:
    balance -= amount
    print(" Withdrawal successful.")
    print(" Remaining balance:", balance)
```

```
 Withdrawal successful.
 Remaining balance: 500.0
```

13.Finding Common Elements in Two Lists

```
list1=[1,2,3,4,5,6]
list2=[10,9,8,7,6,5]
for i in list1:
    for j in list2:
        if i==j:
            print(j, end=" ")
```

```
5 6
```

14. Calculating Factorial of a Number

```
num=int(input("enter a number "))
sum=1
while(num>0):
    sum*=num
    num-=1
print(f"the factorial is : {sum}")
```

```
the factorial is : 120
```

15. Finding the Sum of Digits of a Number

```
num=input("enter number")
num=list(num)
sum=0
for i in num:
    sum+=int(i)
print(f"sum is {sum}")
```

```
sum is 3
```

```
mydict = {
    "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": """
 *****
    *
   *
  *
 *
*
*****"""
}

name = input("Enter your name: ")
cap = [ch.upper() for ch in name]

letters = []
for ch in cap:
    if ch == " ":
        letters.append([" " * 7] * 7)
    elif ch in mydict:
        lines = mydict[ch].splitlines()
        cleaned=[]
        for line in lines:
          if line.strip()!="":
            cleaned.append(line)
        lines=cleaned
        letters.append(lines)


for row in range(7):
    for lines in letters:
        if row < len(lines):
            print(lines[row].ljust(9), end="")
        else:
            print(" " * 9, end="")
    print()
```

```
 *   *     ***     ****     *****     ***     *   *               *****
*        **** *   *   *     ***     *****     ***     *         *   *

 ** **    *   *    *   *      *      *   *    ** **              *
*        *        *   *    *   *       *     *   *    *         *   *

 * * *    *   *    *   *      *      *   *    * * *              *
*        *        *   *    *   *       *      *   *    *         * *

 *   *    *****    ****       *      *****    *   *              *****
*        * ****   *****    *****     *       *****    *           *
```