In [71]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#2*

z**=**""

**for** row **in** range(0,7):

**for** column **in** range(0,7):

**if** row **==** 0 **or** row **==** 6:

**if** column **>=** 0 **and** column **<=** 6: z**+=**"\*"

**elif** row**+**column**==**6: z**+=**"\*"

**else**:

z**+=**" "

z**+=**"\n" print(z)

Date: 2020-06-27 20:35:08.376627

UserName: jovyan

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

\*

\*

\*

\*

\*

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

In [74]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#3*

l1 **=** []

l2 **=** []

l3 **=** []

**for** k **in** range(6): l1.append('\*')

**for** j **in** range(4): l2.append(l1)

**for** i **in** range(3): l3.append(l2)

print(l3)

Date: 2020-06-27 20:40:51.209059

UserName: jovyan

[[['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*',

'\*', '\*', '\*', '\*']], [['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*',

'\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*']], [['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*'], ['\*', '\*', '\*', '\*', '\*', '\*']]]

In [9]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#4*

**def** volume(l **=** 1.0,b **=** 1.0,h **=**1.0): **return**(l**\***b**\***h)

l **=** float(input('Length of the Box')) b **=** float(input('Width of the Box')) h **=** float(input('Height of the Box')) volume(l,b,h)

Date: 2020-06-27 19:41:19.871500

UserName: jovyan Length of the Box2 Width of the Box3 Height of the Box5

Out[9]: 30.0

In [12]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#5a*

**def** cube(a **=** ""):

**if** a **==**"":

**return**(2**\*\***3) **else**:

**return**(a**\*\***3)

a **=** int(input('Please enter the first value ')) cube(a)

Date: 2020-06-27 19:42:20.655434

UserName: jovyan

Please enter the first value 7 Out[12]: 343

In [13]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#5b*

**def** equality(h,k):

**if** h **==** k:

**return True else**:

**return False**

h **=** input('Please enter the first value ') k **=** input('Please enter the first value ') equality(h,k)

Date: 2020-06-27 19:42:32.272443

UserName: jovyan

Please enter the first value hero Please enter the first value hero

Out[13]: True

In [17]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#6*

**def** factors(x): l1 **=** []

sm **=** 0

**for** i **in** range(1,round(x**/**2)**+**1):

**if** x**%**i **==** 0:

l1.append(i)

**for** i **in** l1: sm **+=**i

**if** sm **==** x:

print('Perfect Number')

**else** :

print('Not a Perfect Number')

x **=** int(input('Enter a number to check whether it is Perfect or not ')) factors(x)

Date: 2020-06-27 19:44:30.863069

UserName: jovyan

Enter a number to check whether it is Perfect or not 6 Perfect Number

In [55]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#7*

**def** execute(s):

**try**:

x **=** exec(s)

**except** Exception **as** e: print("Error:", e)

stg **=** str(input('Enter the code which you want to execute')) execute(stg)

Date: 2020-06-27 20:12:01.707308

UserName: jovyan

Enter the code which you want to executeprint('Hello World') Hello World

In [69]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

**import** random

*#8*

**def** digit(n):

**try** :

range\_start **=** 10**\*\***(n**-**1) range\_end **=** (10**\*\***n)**-**1

**return** random.randint(range\_start, range\_end)

**except** Exception **as** SyntaxError:

print("Numbers can't start with 0 ")

print("The number of digits in the number are:",count) n **=** int(input('Enter the number of digits '))

digit(n)

Date: 2020-06-27 20:25:44.526651

UserName: jovyan

Enter the number of digits 5 Out[69]: 60891

In [64]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#9*

**def** series(a,b): diff **=** (a**+**b)**/**4

**return** (a, a**+**diff, b**-**diff, b)

t **=** int(input('enter your first number of the series')) k **=** int(input('enter your last number of the series')) series(t,k)

Date: 2020-06-27 20:22:34.968847

UserName: jovyan

enter your first number of the series1 enter your last number of the series7

Out[64]: (1, 3.0, 5.0, 7)

In [31]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#10*

**def** prime(p):

**for** i **in** range(2,round(p**/**2)):

**if** p **%**i **==** 0:

print("Not prime")

**else**:

print('Prime')

**break**

p **=** int(input("Enter the number to test primality ")) prime(p)

Date: 2020-06-27 19:52:01.774155

UserName: jovyan

Enter the number to test primality 7 Prime

In [36]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#11*

**def** Isprime(N,a**=**2):

**if** N **==** 1:

print('Neither Prime nor composite')

**elif** N **==** 2:

**return False elif** N**%**2 **==** 0:

**return False elif** a**>=**N :

**return True**

**else**:

**return** Isprime(N,a**+**1)

N **=** int(input('Enter number to test primality ')) Isprime(N)

Date: 2020-06-27 19:54:26.261618

UserName: jovyan

Enter number to test primality 7 Out[36]: True

In [72]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

**def** prdt(a,b):

**if** b **==** 1:

**return** a

**elif** b **==**0:

**return** 0

**else**:

**return** a **+** prdt(a,b**-**1)

a **=** int(input('1st number ')) b **=** int(input('2nd number ')) prdt(a,b)

Date: 2020-06-27 20:37:34.639046

UserName: jovyan 1st number 3

2nd number 4

Out[72]: 12

In [48]: 

**from** datetime **import** datetime

**import** getpass

print("Date: ",datetime.now( ))

print("UserName: ",getpass.getuser( ))

*#13*

l2**=**[]

**def** hailstone(n):

**if** n **==** 1:

l2.append(1) print(l2)

**elif** n **==** 0:

**return** 0

**elif** n**%**2 **==** 0:

l2.append(n) n **=** (n**/**2)

hailstone(n)

**elif** n**%**2 **!=** 0:

l2.append(n) n **=** 3**\***n **+**1

hailstone(n)

n **=** int(input('Plase enter the number to start the sequence')) hailstone(n)

Date: 2020-06-27 20:05:09.821940

UserName: jovyan

Plase enter the number to start the sequence5 [5, 16, 8.0, 4.0, 2.0, 1]

In [ ]: 