Practical 1

Date	@January 20, 2022
Property	

Write a python script to declare following variables

Integer Float and String

```
interger=55 #declaration of integer
print(integer)

float=55.55 #decleration of float
print(float)

string="Aniket 21" #declaration of string
print(string)
```

55

55.55

Aniket 21

Type Function

```
print(type(integer) #Type Method is used to show what type of datatype is being used by the Variable
print(type(float)
print(type(string)
```

integer

💡 float

💡 string

Tuple and It’s Methods

```
tuple1=('hello','aniket','welcome','aniket','ciao','bye','aniket','hello','welcome','ciao') #declaration of tuple

print(tuple1.count('ciao')) #Gives Count of Entry in Tuple- How many times Entry is getting repeated

print(tuple1.count('aniket'))

print(tuple1.index('welcome')) #Gives Index of Entry

print(tuple1.index('ciao'))
```

Output

```
2
3
2
4
```

List and it's Methods

Append

```
li1=['hello', 'bye', 'aniket', 'google', 'internet'] #declaration of List
li2=[55,25,777,48,56,88,18]

''' Append '''
li1.append(59) #will add 59 at the end of the list
li2.append('15') #Will add '15' at the end of list

print(li1)
print(li2)
''' Note: you can add strings to a list of ints and vice versa there is no restriction and obviously same data type can be added '''
```

Output

```
['hello', 'bye', 'aniket', 'google', 'internet', 59]

[55, 25, 777, 48, 56, 88, 18, '15']
```

Extend

```
''' Extend '''
li1.extend([15,55,85]) #used to add more than one element at the same time
li2.extend(['Aniket','hello','vice'])

print(li1)
print(li2)
''' Note: use [] while extending -- otherwise only one arg will be taken and error will pop '''
```

Output

```
['hello', 'bye', 'aniket', 'google', 'internet', 59, 15, 55, 85]

[55, 25, 777, 48, 56, 88, 18, '15', 'Aniket', 'hello', 'vice']
```

Dictionary and it's Methods

Get

```
dic={"Hello":"World", "Where":"ToGo", "Here":"IsIt", "MyName":"IsBlank"} #declaration of Dictionary

print(dic.get("Hello"))       #Gives Entry Coinciding with the Key Entered
print(dic.get("MyName"))
```

Output

```
World

IsBlank
```

Adding Entry

```
dic['Good']='Morning'   #Adds Entry to the DEictionary-- Key and Value
print(dic)
```

Output

```
{'Hello': 'World', 'Where': 'ToGo', 'Here': 'IsIt', 'MyName': 'IsBlank', 'Good': 'Morning'}
```

`Zip` Another Way to Declare Dictionary by Combining Two Lists

```
keys=['Aniket', 'Rajat', 'Hetvi', 'Lavish']
values=['Tripathi', 'Khandelwal', 'Gupta', 'Yadav']
names=dict(zip(keys,values))

print(names)
```

Output

```
{'Aniket': 'Tripathi', 'Rajat': 'Khandelwal', 'Hetvi': 'Gupta', 'Lavish': 'Yadav'}
```

`Here We Have Created Two Lists and Then Zipped Them to make a Dictionary. We Can Check That by Using Type Method`

```
print(type(keys))       #type is a method which shows datatype of variable
print(type(values))
print(type(names))
```

Output

```
<class 'list'>
<class 'list'>
```

```
<class 'dict'>
```

`Update:` Merge 2 Dictionaries Together

```
dic.update(names) #merge two dictionaries with update method
print(dic)
```

Get the input from the command line and display

Addition, subtraction, multiplication and division operation with output

> Note: All the input asked by the program will be inserted by user and here we will assume some inputs

```
Num1= int(input("Num1: "))
Num2= int(input("Num2: "))

add= Num1 + Num2
print("addition: ",add)

sub= Num1 - Num2
print ("subtraction: ",sub)

mul= Num1*Num2
print ("multiplication: ",mul)

div= Num1/Num2
print ("division: ",div)
```

> Output

```
Num1: 55

Num2: 58

addition:  113

subtraction:  -3

multiplication:  3190

division:  0.9482758620689655
```

Area of triangle

```
'''Area of triangle'''

H= int(input(("Enter the height: ")))
B= int(input(("Enter the base: ")))
area=(H*B)/2
print("Area of triangle is: ", area )


'''Area of Square'''
L= int(input("Enter the length: "))
area= L*L
print (area)
```

Output

```
Enter the height: 15
Enter the base: 65
Area of triangle is:  487.5
Enter the length: 19
361
```

Area of Circle

```
'''Area of circle'''

R= int(input(("Enter the radius: ")))

area= 3.14*R*R

print(area)
```

Output

```
Enter the radius: 45

6358.500000000001
```

Perimeter of Triangle Square and Circle

```
'''Perimeter of triangle square and circle'''

a= int(input("enter a: "))
b= int(input("enter b: "))
c= int(input("enter c: "))

peri_of_tri= a+b+c
peri_of_square= 4*a
peri_of_circle=  2*3.14*a

print(peri_of_tri)
print (peri_of_square)
print(peri_of_circle)
```

Output

```
enter a: 15

enter b: 55

enter c: 46

116
60
94.2
```

Surface area of Cube

```
'''Surface area of cube'''

a= int(input("enter a: "))
sur_area_cube= 6*a*a

print(sur_area_cube)
```

Output

```
enter a: 5
150
```

Surface of area of Cone

```
''' Surface of area of Cone '''

import math
r= int(input("enter r: "))
h= int(input("enter h: "))

l = math.sqrt(r*r + h*h)
area= math.pi*r*(r+l)
print("Surface of area of cone is:",area)
```

```
enter r: 15

enter h: 25

Surface of area of cone is: 2080.744019778814
```

Volume of Cube

```
'''Volume of Cube'''

a= int(input("enter a: "))

vol=a*a*a
print(vol)
```

Output

```
enter a: 5

125
```

Volume of Sphere and Cone

Sphere

```
'''volume of sphere'''

r=int(input("enter the radius: "))
vol=(4/3)*3.14*(r*r*r)

print(vol)
```

Output

```
enter the radius: 55

696556.6666666666
```

Cone

```
'''volume of cone'''

r=int(input("enter the radius: "))
h=int(input("enter the height: "))

vol=3.14*(r*r)*h/3
print(vol)
```

Output

```
enter the radius: 15

enter the height: 55

12952.5
```