In [1]:
```
# arithmatic opearation
# integers
print("Addition  ",1+2)
```

```
Addition   3
```

In [3]:
```
print("Substraction ",29-4)
```

```
Substraction  25
```

In [5]:
```
print("multiplication  ", 8990 * 7896)
```

```
multiplication   70985040
```

In [7]:
```
print("Division  ", 97861/5678)
```

```
Division   17.235117999295525
```

In [9]:
```
print("modulus ", 567 % 56)
```

```
modulus  7
```

In [11]:
```
print("Division without the remainder  ", 678//78)                    # Divsion with out floating number
```

```
Division without the remainder   8
```

In [15]:
```
print("Exponential ", 345 ** 2)
```

```
Exponential  119025
```

In [17]:
```
print("Floating number , PI", 3.14)
```

```
Floating number , PI 3.14
```

In [19]:
```
print("Floating number, Gravity",9.81)
```

```
Floating number, Gravity 9.81
```

In [21]:
```
print("complex number ",19 + 30j)
```

```
complex number  (19+30j)
```

In [25]:
```
print("Multiplying complex number   ", 190 + 67j *  -34 + 567j)
```

```
Multiplying complex number    (190-1711j)
```

In [53]:
```
# Declaring variable at first
a = 45 # here a is variable , value is integer 45
b = 3 # here b is variable , value is integer type 31
addition = a + b
print(addition)
```

```
48
```

In [55]:
```
difference = a  -  b
print(difference)
```

```
42
```

In [57]:
```
multiplication = a * b
print(multiplication)
```

```
135
```

In [59]:
```
division = a/b
print(division)
```

```
15.0
```

In [61]:
```
floor_division = a//b
print(floor_division)
```

```
15
```

In [63]:
```
remainder = a % b
print(remainder)
```

```
0
```

In [65]:
```
exponential = a ** b
print(exponential)
```

```
91125
```

In [82]:
```
# Declaring variable  and organizing them together
num_one = 3
num_two = 9
```

In [84]:
```
total = num_one + num_two
```

```
print(total)
```

```
12
```

In [86]:
```
diff = num_two - num_one
print(diff)
```

```
6
```

In [90]:
```
product = num_one * num_two
print(product)
```

```
27
```

In [94]:
```
div = num_two / num_one
print(div)
```

```
3.0
```

In [96]:
```
reamainder = num_two % num_one
print(remainder)
```

```
0
```

In [100…
```
# calculate area of circle
radius = 9.7
area_of_circle = 3.14 * radius ** 2
print('Area of circle is ',area_of_circle)
```

```
Area of circle is  295.44259999999997
```

In [104…
```
# calculating area of rectangle
length = 40
width = 30
area_of_rectangle = length * width
print("Area of rectangle is ",area_of_rectangle)
```

```
Area of rectangle is  1200
```

In [109…
```
# calculating weight of object
mass = 67
gravity = 9.81
weight = mass * gravity
print("Weight of object(N)",weight)
```

```
Weight of object(N) 657.27
```

In [111…
```
print(3 > 2)
```

```
True
```

In [113…
```
print(3 >= 2)
```

```
True
```

In [115…
```
print(3 < 2)
```

```
False
```

In [117…
```
print(3==2)
```

```
False
```

In [123…
```
print(len('mango') > len('Avocado'))
```

```
False
```

In [127…
```
print(3 != 2)
```

```
True
```

In [131…
```
print(len('mango') != len('Avocado'))
```

```
True
```

In [133…
```
print(len('mango') < len('Avocado'))
```

```
True
```

In [135…
```
print(len('milk') != len('meat'))
```

```
False
```

In [137…
```
print(len('milk') == len('meat'))
```

```
True
```

In [139…
```
print(len('tomato') == len('potato'))
```

```
True
```

In [141…
```
print(len('python') > len('dragon'))
```

```
False
```

In [145…
```
# boolean comparision
print('True == True  :', True == True)
```

```
True == True  : True
```

In [147…
```
print('True == False :', True == False)
```

```
True == False : False
```

In [149…
```
print('False == False : ', False == False)
```

```
False == False :  True
```

In [151…
```
print('True and True :', True and True)
```

```
True and True : True
```

In [153…
```
print('True or False :', True or False)
```

```
True or False : True
```

In [157…
```
# Another way comparison
```

```
 1 is 1 True
<>:2: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:2: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
C:\Users\mohap\AppData\Local\Temp\ipykernel_11588\308811302.py:2: SyntaxWarning: "is" with 'int' literal. Did yo
u mean "=="?
  print(' 1 is 1', 1 is 1)
```

In [ ]:
```
print('1 is 1', 1 is 1)                   # True - because the data values are the same
print('1 is not 2', 1 is not 2)           # True - because 1 is not 2
print('A in Asabeneh', 'A' in 'Asabeneh') # True - A found in the string
print('B in Asabeneh', 'B' in 'Asabeneh') # False -there is no uppercase B
print('coding' in 'coding for all') # True - because coding for all has the word coding
print('a in an:', 'a' in 'an')      # True
print('4 is 2 ** 2:', 4 is 2 ** 2)   # True
```

In [159…
```
print('1 is 1', 1 is 1)                   # True - because the data values are the same
```

```
1 is 1 True
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
C:\Users\mohap\AppData\Local\Temp\ipykernel_11588\2078387200.py:1: SyntaxWarning: "is" with 'int' literal. Did y
ou mean "=="?
  print('1 is 1', 1 is 1)                   # True - because the data values are the same
```

In [163…
```
print('1 is not 2 :', 1 is not 2)
```

```
1 is not 2 : True
<>:1: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?
<>:1: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?
C:\Users\mohap\AppData\Local\Temp\ipykernel_11588\1378939363.py:1: SyntaxWarning: "is not" with 'int' literal. D
id you mean "!="?
  print('1 is not 2 :', 1 is not 2)
```

In [171…
```
print('A is in RAtna :','A' in 'RAtna')
```

```
A is in RAtna : True
```

In [173…
```
print('R is Prava : ','R' in 'Prava')
```

```
R is Prava :  False
```

In [177…
```
print('Coding' in 'Coding for all')
```

```
True
```

In [181…
```
print('a in an  :', 'a' in 'an')
```

```
a in an  : True
```

In [185…
```
print('4 is 2**2: ', 4 is 2**2)
```

```
4 is 2**2:  True
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
C:\Users\mohap\AppData\Local\Temp\ipykernel_11588\1163091481.py:1: SyntaxWarning: "is" with 'int' literal. Did y
ou mean "=="?
  print('4 is 2**2: ', 4 is 2**2)
```

In [187…
```
print(3> 2 and 4>3)
```

```
True
```

In [189…
```
print(3>2 and 4<3)
```
```
False
```
In [191…
```
print(3>2 or 4<3)
```
```
True
```
In [193…
```
print(3<2 or 4<3)
```
```
False
```
In [195…
```
print(not 3>2) # False - because 3 > 2 is true, then not True gives False
```
```
False
```
In [ ]:
```
print(not True) ## False - Negation, the not operator turns true to false
```
In [197…
```
print(not False)
```
```
True
```
In [199…
```
print(not not True)
```
```
True
```
In [201…
```
print(not not False)
```
```
False
```
In [ ]:
In [ ]: