Lect 4

Arithmetic operator

adition

In [3]:

```
a = 1
b = 3
print(a+b)
```

```
4
```

In [4]:

```
x = 1.5
y = 2.3
print(x+y)
```

```
3.8
```

In [5]:

```
a1 = "hello"
b1 = "students"
print(a1+b1)
```

```
hellostudents
```

In [7]:

```
a1 = "hello"
b1 = "students"
print(a1+" "+b1)
```

```
hello students
```

In [8]:

```
x1 = 2+3j
y1 = 1+5j
print(x1+y1)
```

```
(3+8j)
```

In [10]:

```
w1 = -6
w2 = 3
print(w1+ w2)
```

```
-3
```

Subtraction operator

In [11]:

```
num1 = 8
num2 = 4
print(num1-num2)
```

```
4
```

In [12]:
```
a4 = 5.67
b4 = 2.34
print(a4-b4)
```

```
3.33
```

In [13]:
```
a5= "hello"
b6 = "students"
print(a5-b6)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[13], line 3
      1 a5= "hello"
      2 b6 = "students"
----> 3 print(a5-b6)

TypeError: unsupported operand type(s) for -: 'str' and 'str'
```

In [14]:
```
a6 = 5+9j
b6 = 3+5j
print(a6-b6)
```

```
(2+4j)
```

multiplication

In [15]:
```
n = 3
b = 5
print(n*b)
```

```
15
```

In [18]:
```
n1 = 3.561296496241596596458
b1 = 5.854158641694159154848478748
print(n1*b1)
```

```
20.848394659107875
```

In [21]:
```
str = "hello i am swati"
print(str*5)
```

```
hello i am swatihello i am swatihello i am swatihello i am swatihello i am swati
```

In [20]:
```
str1 = "hello"
str2 = "world"
print(str1*str2)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[20], line 3
      1 str1 = "hello"
      2 str2 = "world"
----> 3 print(str1*str2)

TypeError: can't multiply sequence by non-int of type 'str'
```

In [22]:

```
a1 = 2+3j
b1 = 3+4j
print(a1*b1)
```

```
(-6+17j)
```

Divison

In [23]:

```
a = 15
b = 3
print(a/b)
```

```
5.0
```

In [24]:

```
a1 = 1524556.5852558455
b1 = 23.45525625252
print(a1/b1)
```

```
64998.504763385354
```

In [25]:

```
com1 = 2+3j
com2 = 1+2j
print(com1/com2)
```

```
(1.6-0.2j)
```

In [26]:

```
str1 = "hello"
str2 = "world"
print(str1/str2)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[26], line 3
      1 str1 = "hello"
      2 str2 = "world"
----> 3 print(str1/str2)

TypeError: unsupported operand type(s) for /: 'str' and 'str'
```

Modulous

In [27]:

```
print(12%3)
```

```
0
```

In [28]:

```
print(19%5)
```

```
4
```

In [29]:

```
print(7964964796479647%85)
```

```
17
```

In [30]:

```
a1 = 456.455525252
b1 = 2.8
print(a1%b1)
```

```
0.05552525200000158
```

In [33]:

```
a2 = 5+3j
b1 = 3+2j
print(a2%b1)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[33], line 3
      1 a2 = 5+3j
      2 b1 = 3+2j
----> 3 print(a2%b1)

TypeError: unsupported operand type(s) for %: 'complex' and 'complex'
```

In [34]:

```
print(12//3)
```

```
4
```

In [35]:

```
print(45249479//45)
```

```
1005543
```

In [36]:

```
print(5.23%2)
```

```
1.2300000000000004
```

Exponent

In [37]:

```
a = 3
b = 2
print(a**b)
```

```
9
```

In [38]:

```
print(12654564185485478547**3)
```

```
2026476532777028207140833670625959792929696286127568373323
```

In [39]:

```
w = 60
h = 5
v = h**2
print(w/v)
```

```
2.4
```

In [40]:

```
print(5.26541961541 ** 2)
```

```
27.724643726344393
```

Boolean Operator

In [41]:

```
a = True
print(type(a))
```

```
<class 'bool'>
```

In [42]:

```
a1 = False
print(type(a1))
```

```
<class 'bool'>
```

Comparison Operator

In Python, comparison operators are used to compare values. These operators return True or False based on whether the comparison is true or false

Equal to ==

In [43]:

```
x = 5
y = 5
print(x==y)
```

```
True
```

In [44]:

```
x = 6
y = 5
print(x==y)
```

```
False
```

not equal !=

In [46]:

```
x = 5
y = 3
print(x!=y)
```

```
True
```

In [47]:

```
x = 5
y = 5
print(x!=y)
```

```
False
```

greater than >

In [51]:

```
x = 5
y = 13
print(x>y)
```

```
False
```

less than <

In [53]:
```
print(156<85)
```

```
False
```

greater than or equal to >=

In [54]:
```
x = 5
y = 5
print(x>=y)
```

```
True
```

In [ ]:
```
less than equal to <=
```

In [55]:
```
x = 5
y = 5
print(x<=y)
```

```
True
```

Logical operator

In [56]:
```
x = True
y = False
print(x and y)
```

```
False
```

In [57]:
```
x = True
y = False
print(x or y)
```

```
True
```

In [58]:
```
x = True
print(not x)
```

```
False
```

In [59]:
```
x = False
print(not x)
```

```
True
```

In [ ]:
```

```

Practice questions

Question 1

You have a data containing two record: "Quantity" and "Price per Unit". How would you use arithmetic operators to calculate the total cost for each item, also calculate the total cost? product 1, Quantity -5 , Price per Unit - Rs 250 product 2, Quantity - 25 , Price per Unit - Rs 656 product 3 ,Quantity - 34, Price per Unit - Rs 274

In [64]:

```python
product_1 = 5*250
product_2 = 25*656
product_3 = 34*274
print("the price of product1 is" , product_1)
print("the price of product2 is" , product_2)
print("the price of product3 is" , product_3)
print("the total price customer need to pay is ",product_1+product_2+product_3)
```

```
the price of product1 is 1250
the price of product2 is 16400
the price of product3 is 9316
the total price customer need to pay is  26966
```

Question 2

In a finance-based organization, the task is to calculate the simple interest given the principal amount, interest rate, and time period. The interest rate is 8%, the principal amount is Rs 15,00,000, and the time period is 3 years. Calculate the simple interest. Also, the threshold amount is Rs 1,20,000. Please check if the calculated interest is greater or less than the threshold amount.

In [69]:

```python
p = 1500000
r = 8
t = 3
threshold = 120000

SI =(p*r*t)/100
print("the simple interest is ", SI)
comp = SI>threshold
print(comp)
print("the value of simpole interest is greater tha threshold")
```

```
the simple interest is  360000.0
True
the value of simpole interest is greater tha threshold
```

Question 3

In [ ]:

```
Write a Python program to calculate the area of a circle with a radius of 12 cm.
```