Basic operators

In [1]:

```
5+2
```

Out[1]:

```
7
```

In [2]:

```
6-3
```

Out[2]:

```
3
```

In [3]:

```
8*7
```

Out[3]:

```
56
```

In [4]:

```
8**2
```

Out[4]:

```
64
```

In [5]:

```
9/5
```

Out[5]:

```
1.8
```

In [6]:

```
9//5
```

Out[6]:

```
1
```

In [7]:

```
3%2
```

Out[7]:

```
1
```

Variables

In [8]:

```
a=15
```

In [11]:

```
a
```

Out[11]:

```
15
```

In [12]:

```
type(a)
```

Out[12]:

```
int
```

In [13]:

```
a = "Arjun"
type(a)
```

Out[13]:

```
str
```

In [14]:

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

Out[14]:

```
bool
```

In [15]:

```
_
```

Out[15]:

```
bool
```

In [16]:

```
a = 5*5
```

In [21]:

```
_
```

Out[21]:

```
25
```

Operators

In [20]:

```
#Arithmetic operator
#Logical operator
#Bitwise operator
#Membership operator
#Assignment operator
#Identitiy Operator
#Comparison Operator
```

In [23]:

```
#Arithmetic operator
# +is the operator and a,b is operands
#other arithmetic operators are +,-,*,/,//,**,%
```

In [71]:

```
a=7
b=8
```

In [72]:

```
a**b
```

Out[72]:

```
5764801
```

In [73]:

```
a-b
```

Out[73]:

```
-1
```

In [74]:

```
a/b
```

Out[74]:

```
0.875
```

In [75]:

```
a%b
```

Out[75]:

```
7
```

In [76]:

```
a//b
```

Out[76]:

```
0
```

In [25]:

```
#Assignment Operator
# +=,*=,/=,-=,%=
```

In [27]:

```
#Comparison Operator
#==(equal), !=(not equal), > (greater), < (lesser), <= (less than or equal to)
# resultant value is a boolean
```

In [28]:

```
a==a
```

Out[28]:

```
True
```

In [30]:

```
a=0.1
b=0.2
a==b
```

Out[30]:

```
False
```

In [31]:

```
a>=b
```

Out[31]:

```
False
```

In [32]:

```
a<=b
```

Out[32]:

```
True
```

In [34]:

```
a-b
```

Out[34]:

```
-0.1
```

In [35]:

```
#Logical Operator
#and , or , not
```

In [38]:

```
a = 4
b = 7
print(a < 6 and b<6)
```

```
False
```

In [39]:

```
print(a>6 or b>7)
```

```
False
```

In [40]:

```
#and
# both a and b must satistfy
#other than that everything is false
```

In [41]:

```
#or
#either a or b or both satisfies the result is true
#if both doesnt satistfy the result is false
```

In [42]:

```
r = 5
g = 5
not(r!=g)
```

Out[42]:

```
True
```

In [43]:

```
r!=g
```

Out[43]:

```
False
```

In [46]:

```
r==g
```

Out[46]:

```
True
```

In [47]:

```
#Membership Operator
#in and not in
```

In [49]:

```
a = "ARJUN"
"c" in a
```

Out[49]:

```
False
```

In [50]:

```
'r'in a
```

Out[50]:

```
False
```

In [51]:

```
'R'in a
```

Out[51]:

```
True
```

In [52]:

```
'R' not in a
```

Out[52]:

```
False
```

In [53]:

```
'j'not in a
```

Out[53]:

```
True
```

In [54]:

```
'ARj'in a
```

Out[54]:

```
False
```

In [55]:

```
#Identity Operator
# is and is not
```

In [58]:

```
'A'is not a
```

```
<>:1: SyntaxWarning: "is not" with a literal. Did you mean "!="?
<>:1: SyntaxWarning: "is not" with a literal. Did you mean "!="?
C:\Users\klmar\AppData\Local\Temp\ipykernel_20860\2410615632.py:1: SyntaxWar
ning: "is not" with a literal. Did you mean "!="?
  'A'is not a
```

Out[58]:

```
True
```

In [59]:

```
#TASK
#Bitwise Operator
```

In [60]:

```
user_name = input("Enter your name: ")
```

```
Enter your name: Arjun
```

In [61]:

```
user_age = int(input("Enter your age: "))
```

```
Enter your age: 17
```

In [63]:

```
type(user_age)
```

Out[63]:

```
int
```

In [64]:

```
type(user_name)
```

Out[64]:

```
str
```

In [67]:

```
a = int(input('Enter first number: '))
b = int(input('Enter second number: '))
c = a+b
print("The result is " , c)
```

```
Enter first number: 10
Enter second number: 30
The result is  40
```

In [70]:

```
user_name = input("Enter your name: \n")
user_age = int(input("Enter your age: \n"))
user_dept = input("Enter your Dept: \n")
```

```
Enter your name:
Arjun
Enter your age:
17
Enter your Dept:
BTech.CSE [CyS & IOT]
```

SELF TEST

In [2]:

```
print("This is Introduction")
```

```
This is Introduction
```

In [4]:

```
print("Anything inside quotes will be displayed")
```

```
Anything inside quotes will be displayed
```

In [7]:

```
#variables in Pyhton
#anything which is assigned to something is known as a variable

a = "My First Code"
print(a)
```

```
My First Code
```

In [14]:

```
#multiline statements
print("Hello , My name is Arjun ")
print("And My age is 17")
```

```
Hello , My name is Arjun
And My age is 17
```

In [12]:

```
#quatation
"""
three quatation marks is used for  printing long comments
anything over here will not be displayed once the code is executed


"""
```

Out[12]:

```
'\nthree quatation marks is used for  printing long comments\nanything over
here will not be displayed once the code is executed \n\n\n'
```

In [ ]:

```
#this is a comment in python
#this can be changed to code : ctrl + /
```

In [13]:

```
#getting input from user
a = input("enter something u like: ")
```

```
enter something u like: myself
```

In [15]:

```
#multiple statements in one line
print("Hello , My name is Arjun \nAnd My age is 17")
```

```
Hello , My name is Arjun
And My age is 17
```

In [17]:

```
#Swap integers in one line Python
a = 10
g = 15
d = 50
a,g = g,a
print(a,g)
```

```
15 10
```

In [22]:

```
#variable declaration in python
a = 25,
r = 5.2
print(a,r)
```

```
(25,) 5.2
```

In [23]:

```
#case sensitive variables
a = 15
#if i command print(A)
#there will be an error
A
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [23], in <cell line: 5>()
      2 a = 15
      3 #if i command print(A)
      4 #there will be an error
----> 5 A

NameError: name 'A' is not defined
```

In [24]:

```
#variable data type
```

In [25]:

```
#int(numbers)
a = 5
type(a)
```

Out[25]:

```
int
```

In [26]:

```
#float(numbers)
a = 5.6
type(a)
```

Out[26]:

```
float
```

In [28]:

```
#double(numbers)?
```

In [29]:

```
#string
a = "test"
type(a)
```

Out[29]:

```
str
```

In [31]:

```
#boolean
(2-2!=0)
```

Out[31]:

```
True
```

In [32]:

```
#Length function
a = "giraffe"
len(a)
```

Out[32]:

```
7
```

In [34]:

```
#index
print(a[0])
```

```
g
```

In [40]:

```
print(a[::-1])
```

```
effarig
```

In [41]:

```
print (a[2:5])
```

```
raf
```

In [42]:

```
#upper and lower function
a = "giraffe"
print(a.upper())
```

```
GIRAFFE
```

In [49]:

```
#append
a = [1,2,3,4,5,6,7]
a
```

Out[49]:

```
[1, 2, 3, 4, 5, 6, 7]
```

In [50]:

```
a.append(8)
```

In [51]:

```
a
```

Out[51]:

```
[1, 2, 3, 4, 5, 6, 7, 8]
```

In [52]:

```
a.append(456)
```

In [53]:

```
a
```

Out[53]:

```
[1, 2, 3, 4, 5, 6, 7, 8, 456]
```

In [54]:

```
#insert
a.insert(6,456)
```

In [55]:

```
a
```

Out[55]:

```
[1, 2, 3, 4, 5, 6, 456, 7, 8, 456]
```

In [56]:

```
a.insert(0,0)
```

In [57]:

```
a
```

Out[57]:

```
[0, 1, 2, 3, 4, 5, 6, 456, 7, 8, 456]
```

In [58]:

```
#range
range(10)
```

Out[58]:

```
range(0, 10)
```

In [59]:

```
list(range(11))
```

Out[59]:

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

In [60]:

```
#type and type conversion
a = 456
b = "adiendw"
a+b
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Input In [60], in <cell line: 4>()
      2 a = 456
      3 b = "adiendw"
----> 4 a+b

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

In [61]:

```
str(a)+b    #converting int to string by adding str bfr it
```

Out[61]:

```
'456adiendw'
```

In [62]:

```
#operators are done before
```