Day 5 (03/08/23) [Python Operators]:

Python Operators (Fingers of the Programming): Perform operations on variables and values.
Operations: Mathematical Operations (+ , - , * , / , = , < , > , <= , >= , == , !=)
Types of Operators: Arithmetic Operators, Assignment Operators, Comparison Operators, Logical Operators, Identity Operator, Membership Operators, Bit-wise Operators

Arithmetic Operators (+ , - , * , /):
Uses (+ , - , * , /) operations.

Code:

```
a=10.67
b=13.43
c=a+b
d=b-a
e=a*b
f=b/a
g=b%a
print(f" a={a}, \n b={b}, \n c={c}, \n d={d}, \n e={e}, \n f={f}, \n g={g}")
print("")
op=int(input("Enter the Original Price: "))
gstpercent=int(input("Enter The GST%: "))
totp=op+((op*gstpercent)/100)
print(f"The final price is {totp}")
```

Output:
a=10.67,
b=13.43,
c=24.1,
d=2.76,
e=143.2981,
f=1.2586691658856608,
g=2.76

Enter the Original Price: 100
Enter The GST%: 18
The final price is 118.0

2) Assignment Operators (+= , -= , *= , /=): To operate the previous value assigned to an integer to its current value.

Code:

```
h=5 #h1
h+=15 #h1 #h2=h1+5
print(h)
```

Output:
20

Type(): It used to identify the type of input or input value assigned to a variable.

Code:

```
a=12
b="value"
c=7.79
print("")
print(type(a), type(b), type(c))
```

Output:
<class 'int'> <class 'str'> <class 'float'>

3) Comparison Operators (= , == , < , <= , > , >= , !=): To compare the values of 2 variables and the solution belongs to {true , false}

Code:

```
x=10
y=20
print(x==y)
print(x>=y)
print(x<=y)
print(x<y)
print(x>y)
```

Output:
False
False
True
True
False

4) Logical Operators (AND [&], OR [|], NOT [`]):
AND: If both conditions are true, return true.
OR: If any one of the conditions is true, return true.
NOT: Reverse the Result.

Code:

```
a=10
b=15
print(a==10 and b==20)
print(a==10 or b==20)
print(not(a==10),not(b==10))
dept=input("Enter your department: ")
print(dept=="BCA" or dept=="MCA" or dept=="CSE" or dept=="IT" or dept=="bca" or
dept=="mca" or dept=="cse" or dept=="it")
if dept=="BCA" or dept=="MCA" or dept=="CSE" or dept=="IT" or dept=="bca" or
dept=="mca" or dept=="cse" or dept=="it":
    print("You're Allowed")
else:
    print("Go Out")
```

Output:
False
True
False True
Enter your department: IT
True
You're Allowed

5) Identity Operator: Compares the 2 indirectly linked variables or variable and value.

Code:

```
a=10
b=a
print(b is not a)
```

Output:
False

The values above the digit 100, are stored in different memories, hence the logical operators can cause the wrong output answers.

IN TERMINAL:
>>>python
x=100
>>> y=100
>>> print(x is y)
True
>>> x=1000
>>> y=1000
>>> print(x is y)
False
>>> print(id(x))
2275628757296
>>> print(id(y))
2275628757328

>>> exit() (or Ctrl Z + return)

6) Membership Operator (in, not in):
In: If the element in present inside the variable
Not in: If not present.

Code:

```
fruit=input("Enter the String: ")
fruits=["Banana", "Grapes", "Apple"]
print (fruit in fruits)
```

Output:
Enter the String: Banana
True

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