* Python Task-5 Date- 12/10/2025

① What are the different operators in python programming?

→ In python programming, operators in general are used to perform operations on values and variables.

① Arithmetic operators ⇒
Python arithmetic operators are used to perform basic mathematical operations like addition, multiplication and division.
[+, -, *, /, //, %.]

② Comparison operators ⇒
In python, comparison or relational op. used to compares values. It either returns True or false according to the condition.
[>, <, >=, <=, ==, !=]

③ Logical operators ⇒
It is used to combine conditional statement

- Logical and.	print(a and b)
- Logical not	print(a not b)
- logical or	print(a or b)

④ Bitwise operator ⇒
Python Bitwise operators acts on bits and perform bit-by-bit operations. These are used to operate on binary numbers.
- Bitwise not
- Bitwise Shift
- Bitwise AND
- Bitwise XOR
- Bitwise OR

⑤ Assignment operators →
Assignment op. are used to assign values to a variables. This operator is used to assign the value of the right side of the expression to the left side operand.
[=, +=, -=, *=, <<=]

⑥ Identity operator →
is ⇒ True if the operands are identical.
is not ⇒ True if the operands are not identical.

⑦ Membership operator ⇒
in ⇒ True if value is found in sequence
not in ⇒ True if value is not found in sequence

⑧ Ternery operator ⇒
Ternery op. is also known as conditional expressions. It simply allows testing a condition in a single line replacing the multiline if-else, making the code compact.
Syntax : [on_true] if [expression] else [on_false]

② What is the difference between / & // ?
→

/ (division)	// (floor division)
- Used for floating-point division	Used for integer (floor) division.
- returns the exact quotient including decimal	return quotient without remainder, rounded down
- It gives true div result	It gives floor division result.
eg. 5/2 = 2.5	e.g. 5//2 = 2.

③ What is difference between == & is ?

→

== operator	is operator
- compare values of two objects	- compaires the identity (memory address) of two objects
- return True if both obj. has same value	- return True if both obj. refer to same obj: in memory
- used for value equality	- used for object identity.
- e.g. a=[1,2] b=[1,2] a==b ⇒ True	e.g. a=[1,2] b=[1,2] a is b False.

④ what is difference between OR and XOR?

→

OR	XOR
- Return True if at least one condition is True	Returns true only if exact one condition is True.
- used when any one condition is true	used when only one condition should be true, Not both
- e.g. T or F → True	T ^ F → True.
- Truth Table. T OR T → T T OR F → T F OR T → T F OR F → F	- Truth Table. T XOR T → f T XOR f → T f XOR T → T F XOR f → f.

⑤ What are the membership operators in python & what is working on it?

→ In python, in and not in are the membership operators that are used to test whether a value or variable is in a sequence

in ⇒ True if value is found in the sequence

not in ⇒ True if value is not found in sequence

e.g.

```
x = 24
y = 20
list = [10, 20, 30, 40, 50]
if x not in list:
    print("x is not in given list")
else:
    print("x is present in given list")

if y in list:
    print("y is present in given list")
else:
    print("y is not present in given list")
```

output:

x is not in given list.

y is ~~not~~ present in given list.