Operators:

1. What is the output of the following code?

python

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print(2 \*\* 3 \*\* 2)

a) 64 b) 512 c) 8 d) 18

1. Which of the following is the correct way to perform floor division in Python? a) 7 / 3 b) 7 // 3 c) 7 % 3 d) 7 \ 3
2. What will be the value of x after the following operation?

python

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x = 5

x //= 2

a) 2.5 b) 2 c) 3 d) 2.0

1. What is the output of the following code?

python

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print(True + False == True)

a) True b) False c) 1 d) SyntaxError

1. Which operator is used for identity comparison in Python? a) == b) is c) === d) equals
2. What is the result of the following expression?

python

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3 \* 1 \*\* 3

a) 3 b) 1 c) 27 d) 9

1. What will be the output of the following code?

python

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a = [1, 2, 3]

b = [1, 2, 3]

print(a is b)

a) True b) False c) [1, 2, 3] d) None

1. Which of the following is the correct way to use the ternary operator in Python? a) x if condition else y b) condition ? x : y c) (condition) ? x : y d) if condition then x else y
2. What is the output of the following code?

python

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print(10 << 2)

a) 40 b) 5 c) 20 d) 2

1. What will be the result of the following operation?

python

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'py' 'thon'

a) 'py thon' b) 'python' c) SyntaxError d) ['py', 'thon']

Operators:

1. Answer: b) 512 Explanation: The \*\* operator is right-associative, so 2 \*\* 3 \*\* 2 is equivalent to 2 \*\* (3 \*\* 2) = 2 \*\* 9 = 512.
2. Answer: b) 7 // 3 Explanation: // is the floor division operator in Python.
3. Answer: b) 2 Explanation: //= performs floor division and assignment. 5 // 2 = 2.
4. Answer: a) True Explanation: True + False evaluates to 1 + 0 = 1, which is equal to True.
5. Answer: b) is Explanation: The 'is' operator checks for identity (if two objects are the same object in memory).
6. Answer: a) 3 Explanation: Due to operator precedence, this is equivalent to 3 \* (1 \*\* 3) = 3 \* 1 = 3.
7. Answer: b) False Explanation: While a and b have the same content, they are different objects in memory.
8. Answer: a) x if condition else y Explanation: This is the correct syntax for the ternary operator in Python.
9. Answer: a) 40 Explanation: << is the left shift operator. 10 in binary is 1010, shifting left by 2 gives 101000, which is 40 in decimal.
10. Answer: b) 'python' Explanation: In Python, adjacent string literals are automatically concatenated.