

## PYTHON

### Assignment

1. Write a program that swaps two numbers  $a = 15$  and  $b = 27$  using bitwise XOR.
2. Perform bitwise NOT operation on a number  $n = 25$ . What is the result?
3. Write a program that checks if a given number  $n = 16$  is a power of 2 using bitwise operators.
4. Use bitwise operations to determine if the binary representation of a number  $n = 9$  has an even or odd number of 1s.
5. Write a program to add two numbers  $a = 9$  and  $b = 13$  using bitwise operators.
6. Create a program that checks if a number  $n = 18$  is divisible by both 2 and 3 using logical operators.
7. Write a program that checks if a string  $s = \text{"python"}$  starts with the letter 'p' and ends with the letter 'n' using logical operators.
8. Use logical operators to write a program that checks if a number  $x = 25$  is either greater than 20 or divisible by 5.
9. Create a program that checks if a number  $n = 42$  is both even and greater than 40 using logical operators.
10. Write a program to check if a student's score is within a passing range (between 50 and 100) using logical operators.
11. Write a program that checks if a year is a leap year using a ternary operator.

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12. Use a ternary operator to determine the largest of three numbers  $a = 12$ ,  $b = 9$ , and  $c = 17$ .
  13. Write a program that assigns the value True to a variable `is_adult` if a person's age is 18 or older, otherwise assigns False, using a ternary operator.
  14. Use a ternary operator to check if a given character `ch = 'A'` is uppercase or lowercase.
  15. Write a program that checks if a number  $x = 34$  is divisible by 10 using a ternary operator and prints "Yes" or "No".