

Problem 1: Calculate the Sum of Even Numbers

Write a program that calculates the sum of all even numbers from 1 to a given positive integer `n`.

Step-by-Step Solution:

1. Take input from the user for the value of `n`.
 2. Initialize a variable `sum` to 0 to store the sum of even numbers.
 3. Use a `for` loop to iterate from 1 to `n`.
 4. Inside the loop, check if the current number is even by using the modulo operator (%). If the number is even, add it to the `sum` variable.
 5. After the loop completes, `sum` will contain the sum of even numbers from 1 to `n`.
 6. Print the value of `sum`.
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Problem 2: Print a Square Pattern

Write a program that prints a square pattern of asterisks (*) with a given side length `n`.

Step-by-Step Solution:

1. Take input from the user for the value of `n`.
 2. Use nested `for` loops to print `n` rows of asterisks.
 3. Inside the inner loop, print an asterisk for each column.
 4. Repeat steps 2 and 3 `n` times to create the square pattern.
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Problem 3: Find the Factorial of a Number

Write a program that calculates the factorial of a given positive integer `n`.

Step-by-Step Solution:

1. Take input from the user for the value of `n`.
2. Initialize a variable `factorial` to 1 to store the factorial.
3. Use a `for` loop to iterate from 1 to `n`.
4. Inside the loop, multiply `factorial` by the current loop variable.
5. After the loop completes, `factorial` will contain the factorial of `n`.
6. Print the value of `factorial`.