Search for source code on the internet, identify any errors, highlight them, and explain why they are incorrect. Then, rewrite the entire program to improve the source code.

This is an example

The source code originates from: https://www.geeksforgeeks.org/java-program-for-factorial-of-a-number/

|  |
| --- |
|  |

The program after improvement.

|  |
| --- |
| // Improved Java program to calculate factorial  import java.math.BigInteger; // Required for handling large factorials  // Class name updated for better readability  class FactorialCalculator {  // Factorial method with input validation and BigInteger for large numbers  static BigInteger factorial(int number) {  if (number < 0) {  throw new IllegalArgumentException("Factorial is not defined for negative numbers.");  }  BigInteger resultFactorials = BigInteger.ONE;  int round = 1  for (round <= number; round++) {  resultFactorials = resultFactorials.multiply(BigInteger.valueOf(i));  }  return resultFactorials;  }  // Main method  public static void main(String[] args) {  int number = 5; // Avoid magic numbers, make it user-defined if necessary  System.out.println("Factorial of " + number + " is " + factorial(number));  }  } |

The source code originates from: ………………………………………………………..

|  |
| --- |
|  |

The program after improvement.

|  |
| --- |
|  |