

Java Basics

The IDE

Use this website: <https://www.programiz.com/java-programming/online-compiler/>

- No installation required, just open it and use it.
- Write code on the left, click the “Run” button to run.

Alternative: https://www.w3schools.com/java/tryjava.asp?filename=demo_compiler

Task 1 - FizzBuzz

Question. Write a Java program that prints the numbers from 1 to 100. But for multiples of three, print “Fizz” instead of the number, and for the multiples of five, print “Buzz”. For numbers which are multiples of both three and five, print “FizzBuzz”.

Expected output.

```
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
...
```

Task 2 - Approximate π

Question. Write a Java program that calculates an approximation of π using the Leibniz series:

$$\pi \approx 4 \times \left(1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \dots \right)$$

Your task is to:

1. Define a fixed integer variable n , which represents the number of terms to include in the approximation (for example, $n = 1000$).
2. Use a loop to calculate the sum of the first n terms of the series.
3. Output the approximate value of π after summing n terms.