

# Elementary Java Programming

Java Types and Arithmetic Programs

# REVIEW OF LECTURES

The 6 Java Numeric Types:

- byte
- int
- short
- long
- float
- double

Other Types:

- Char (16 bits unsigned)
- Boolean (1 bit)

Recall the Java numeric operators: +, -, /, \*, %

How does Java handle integer vs. double division?

How do you get numeric input?

# LET'S CODE TOGETHER!

04

We will create a program that computes the geometric mean of three numbers.

Formula

$$\left( \prod_{i=1}^n x_i \right)^{\frac{1}{n}} = \sqrt[n]{x_1 x_2 \cdots x_n}$$

$\prod$  = geometric mean

$n$  = number of values

$x_i$  = values to average

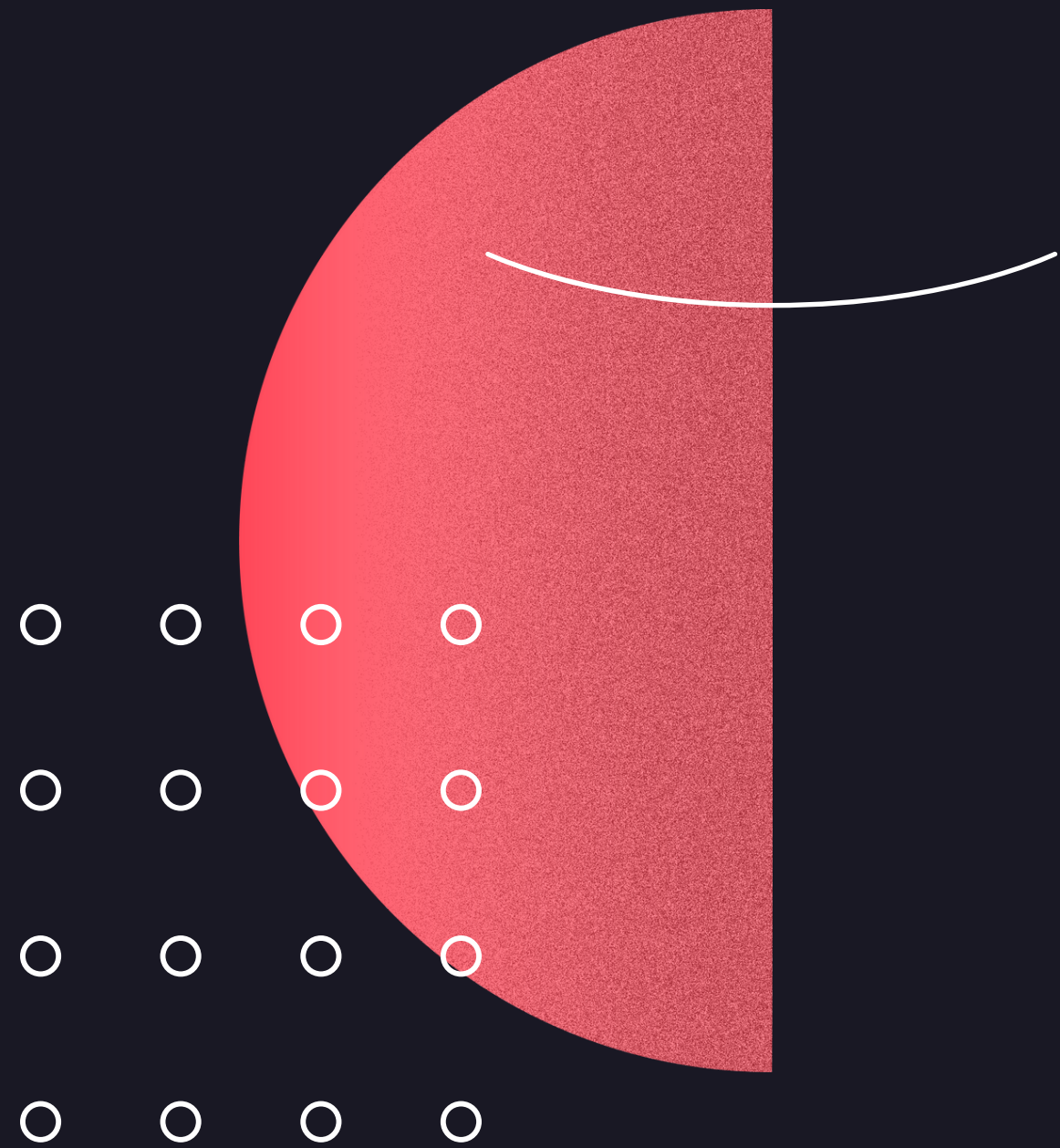


```
import java.util.Scanner;
public class GeometricMean {
    public static void main(String[] args) {
        Scanner keys = new Scanner(System.in);
        final double COUNT_OF_NUMS = 3;
        double num1, num2, num3;
        System.out.print("Enter three numbers: ");
        num1 = keys.nextDouble();
        num2 = keys.nextDouble();
        num3 = keys.nextDouble();

        double innnerProduct = num1 * num2 * num3;
        double geometricMean = Math.pow(innnerProduct, 1/COUNT_OF_NUMS);

        System.out.println(geometricMean);
    }
}
```





**Now you code!**  
**Worksheet of**  
**problems to be**  
**emailed to**  
**you. Please let me**  
**know if you need**  
**help!**