



EU 8 JAVA Week2 Review Notes

Today's Schedule

1. Naming Convention in JAVA
2. Variables and Data Types
3. Declaring and Initializing Variables
4. Arithmetic Operators and Examples together
5. User Input from Console Intro for Replit Assignments

▼ Naming Convention

1. can not start a name with a number
2. spaces are not allowed in JAVA
3. Name can be letters [a-z], [A-Z], [0-9]
 - a. numbers can go anywhere except the first character
4. Only 2 special characters are allowed
 - a. underscore "_"
 - b. dollar sign "\$"

5. Class Names: should start with a capital "TitleCase"
6. Package names: start with lowercase "titleCase"
7. Variable names : start with small letter "titleCase"

▼ Variables and Data Types

▼ What is it?

container holds information in programming

▼ It has 3 parts

Data Type

Variable Name

Variable Value

▼ Generalized Data Type Categories of the Variables

Numeric: Integer Types (byte, short, int, long) and Floating Points Types (float, double)

Character(char)——Strings (group of characters) "important note String is not primitive"

Boolean (true-false)

▼ Data Type Ranges

Type	Range
byte	-128 to 127
short	-32,768 to 32,767
int	-2,147,483,648 to 2,147,483, 647
long	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
float	approximately $\pm 3.40282347\text{E}+38\text{F}$ (6-7 significant decimal digits)
double	approximately $\pm 1.79769313486231570\text{E}+308$ (15 significant decimal digits)
char	0 to 65,536 (unsigned)
boolean	true, false

▼ Declaring Variables

You are giving name and type of your variable

byte num1; byte - data type num1- variable name

short score;

boolean lightOn;

▼ Initializing the Variable

We are giving value to our variable

num1 = 123;

▼ Declare and Initialize at the same line

byte num1 = 123;

Operators

▼ Arithmetic Operators

+, -, *, /, %

▼ Type Casting (We will learn just primitive Data Type casting for right now)

Conversion of Data types:

Narrowing: From a larger data type → to smaller data type

Explicit Casting: this is done by the programmer

NEM "Narrowing - Explicit -Manually"

Widening: From a smaller data type to larger data type

Implicit Casting: This is done compiler itself

WIC "Widening - Implicit - Compiler"

▼ User Input from Console Intro for Replit Assignments

We have four steps

1. Create a scanner object : `Scanner variableName(input) = new Scanner (System.in);`
2. `import java.util.Scanner;` we need to import this library
3. Prompt the user for input `System.out.println(" Please provide me the seconds that you want to convert");`
4. Get the input from console `int seconds = input.nextInt();`

`nextInt()` → gets int variable types

`nextDouble()` → gets double variable types

`next()` and `nextLine()` → gets String variable types (like `print` and `println`)

`nextBoolean` → gets boolean variable types

5. Use the variable anyway you need