Welcome to Software Development Foundations Program

from **Az-SENCS**

What is Az-SENCS?

Software Development Foundations program, is composed of 2 courses:

- 1. Java Programming For Beginners. (Hamza Algohary)
- 2. Data Structures and Algorithms. (Khaled Ekramy)

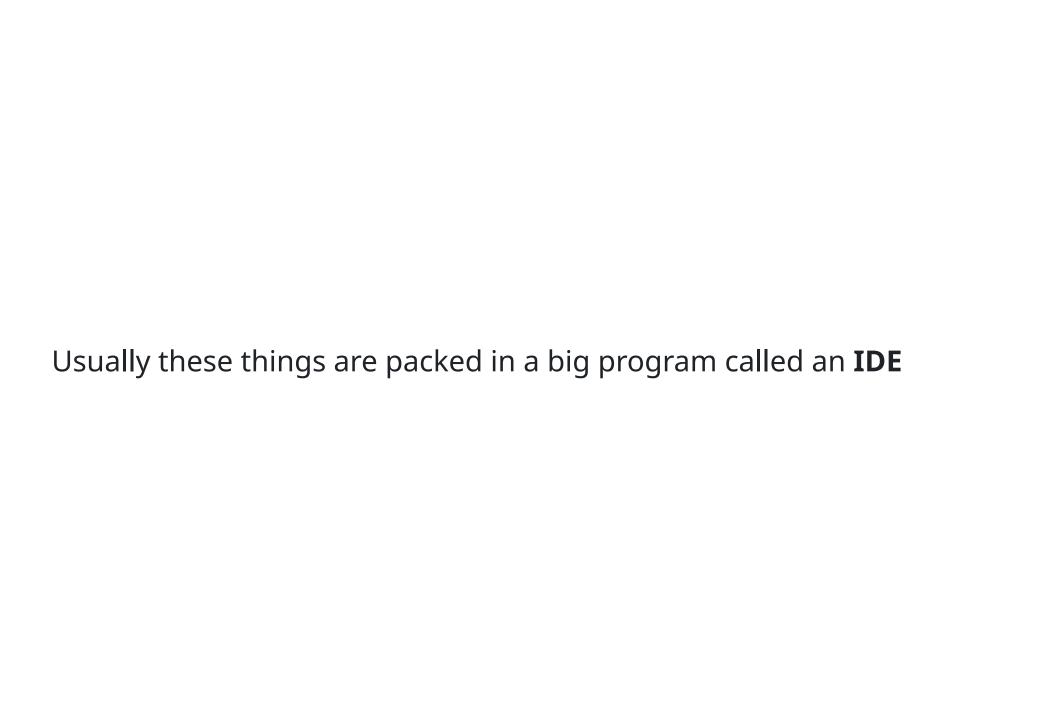
Welcome to the Java Course.

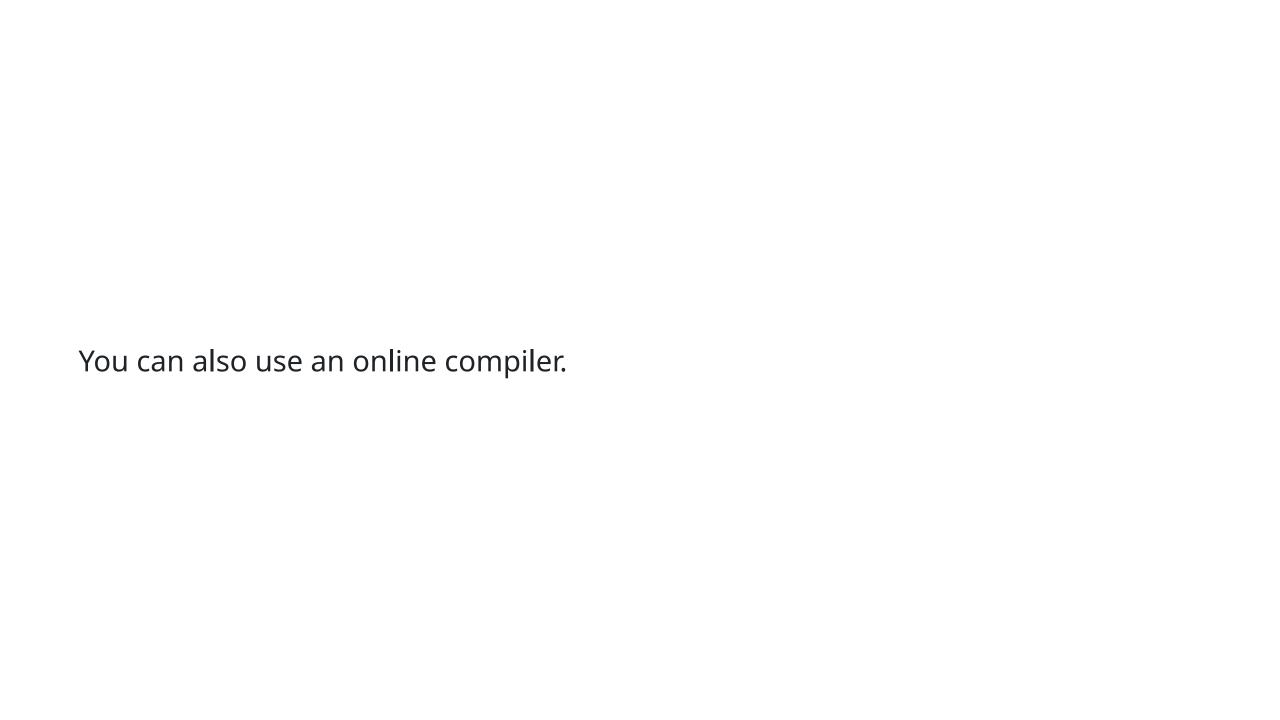
The syllabus is available at:

https://github.com/hamza-Algohary/java-syllabus-for-educators

Essential tools you need to install:

- 1. Compiler
- 2. Text Editor

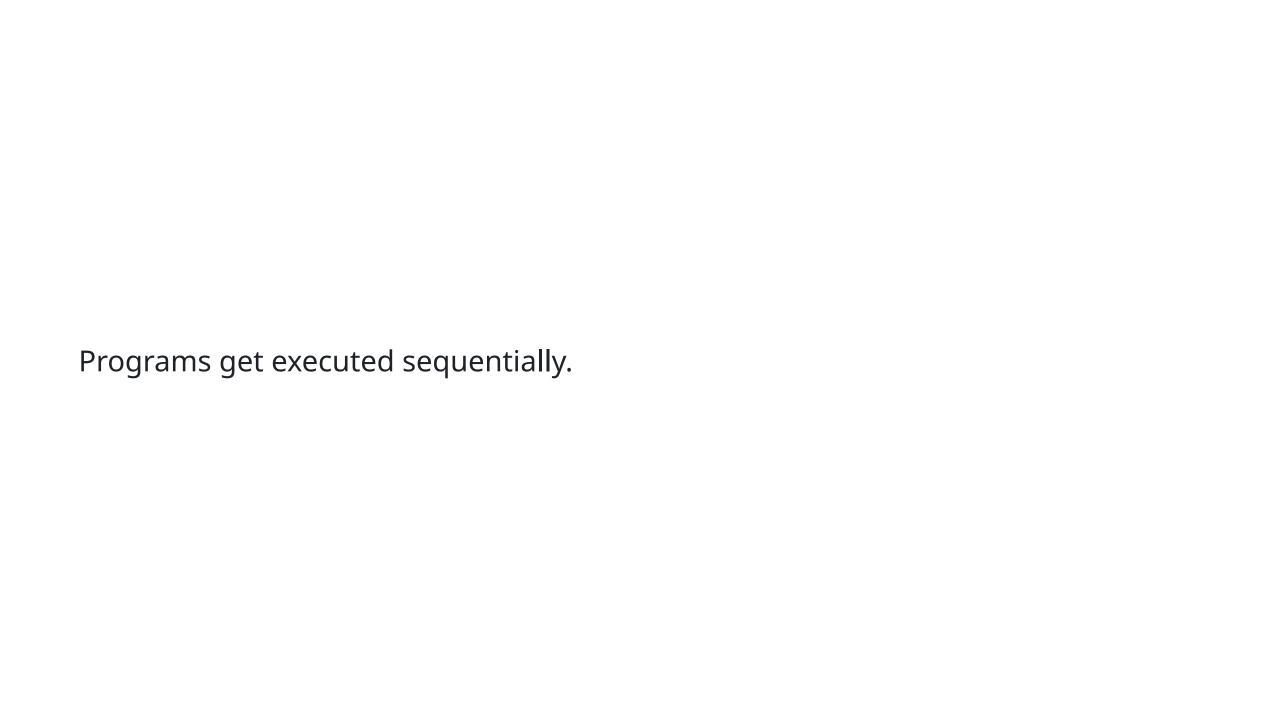




Day 1

Today we're going to write 6 programs and have 2 discussions

Program 1: Introduce Yourself.



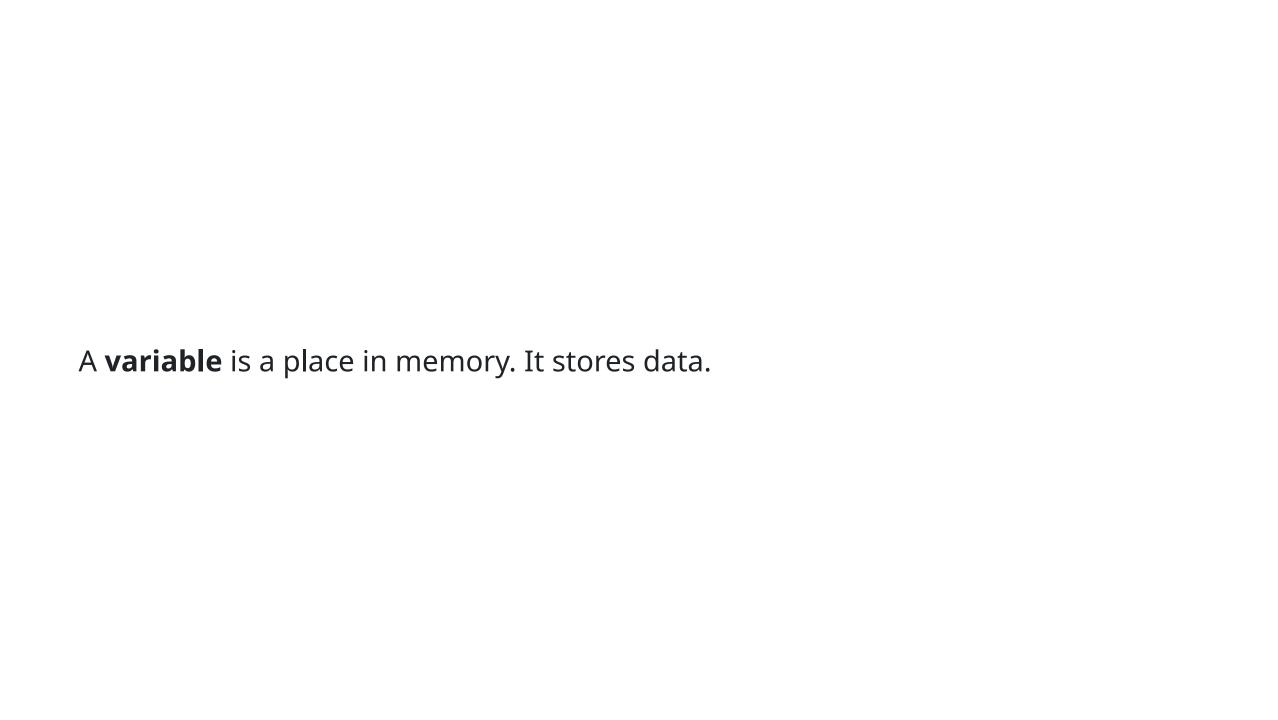
Program 2: Print a menu.

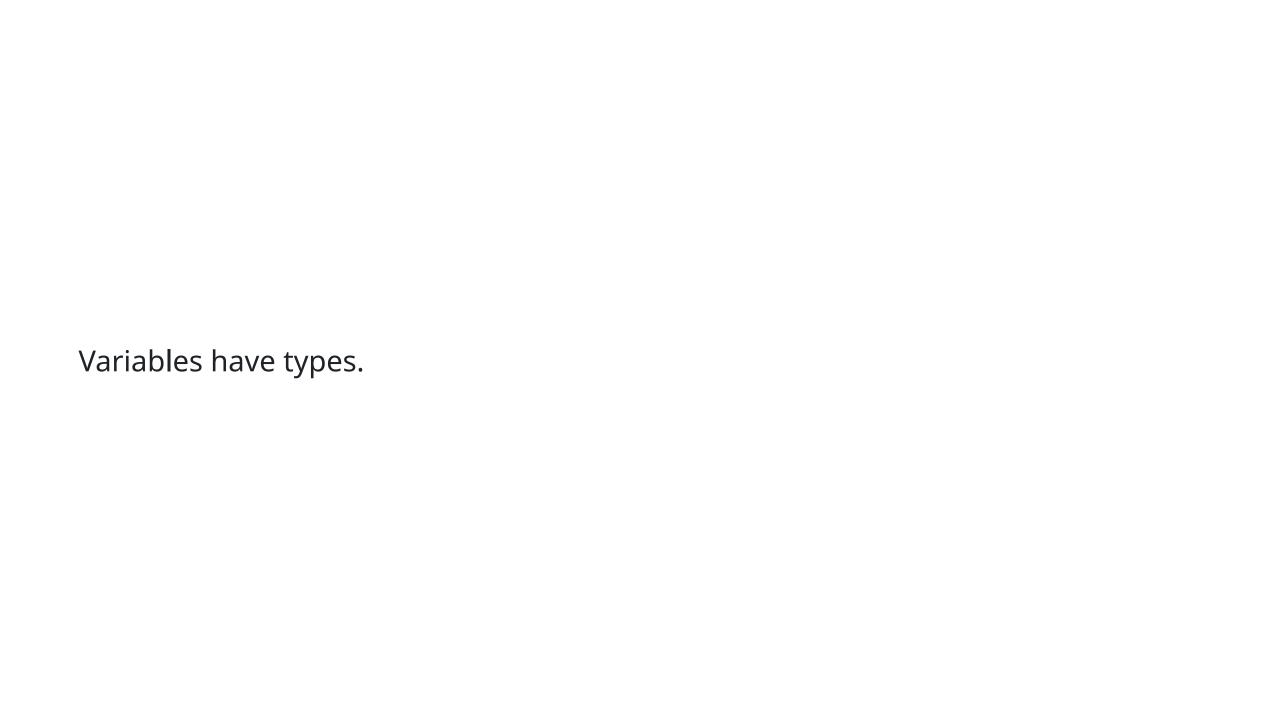
Escape sequences are sequences of charachters with special meaning:

- \n (new line)
- \t (tab)

To print " or \ you have to put a back-slash before it like so \" and \\

Program 3: Storing data.



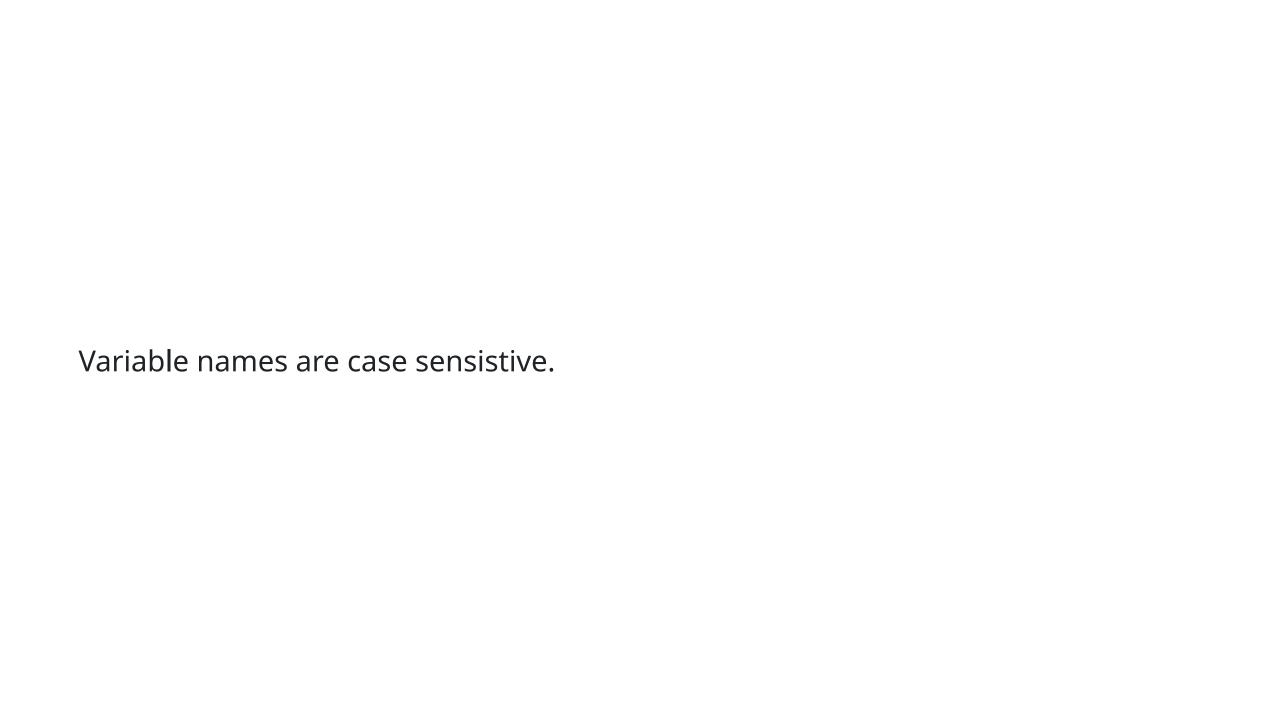


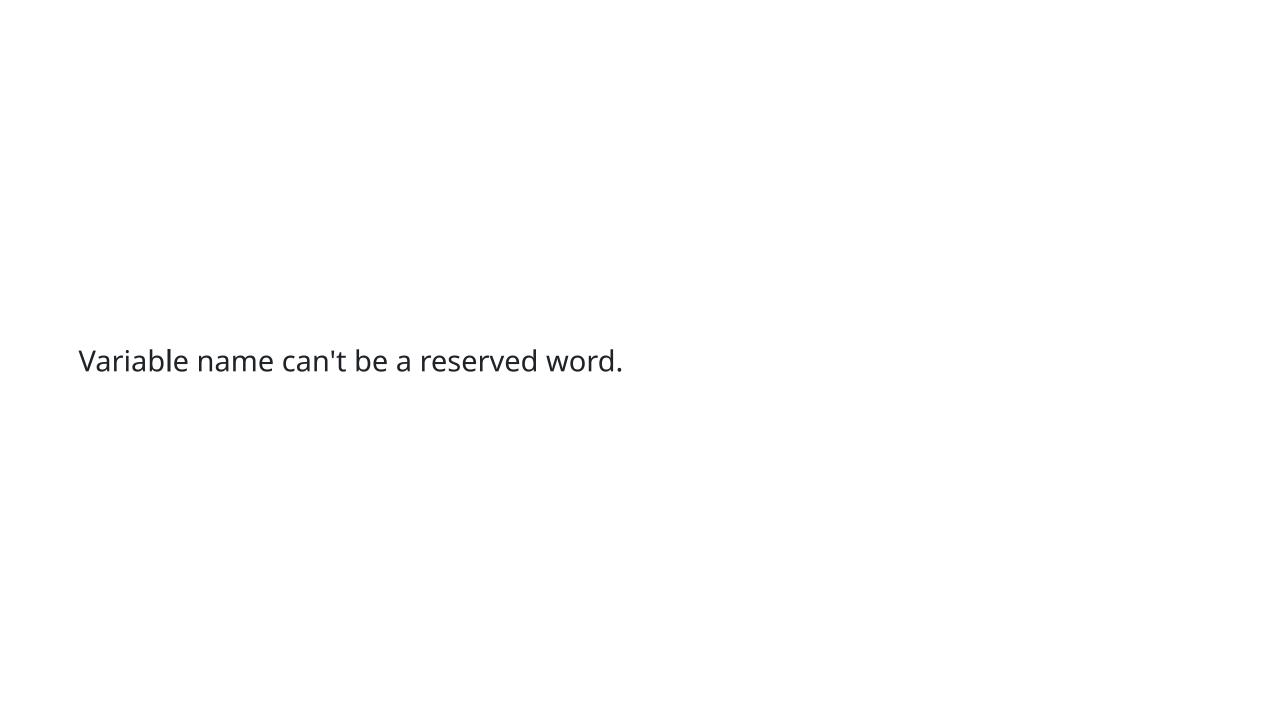
Some types:

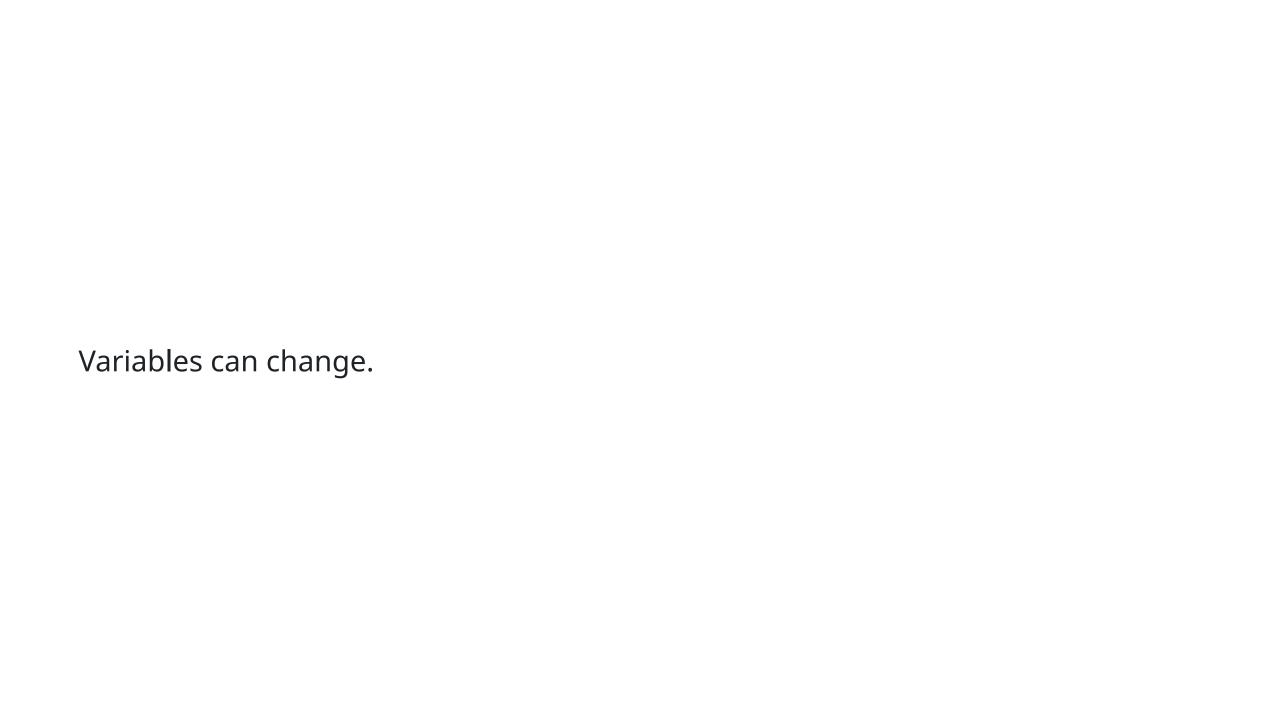
- int (integer)
- double (floating point number)
- boolean (can only be true or false)
- char (single charachter)
- String (text)

Variable Naming rules:

- May only contain letters, numbers, __, \$.
- Can't start with a number.







To make a variable unchangeable use final.

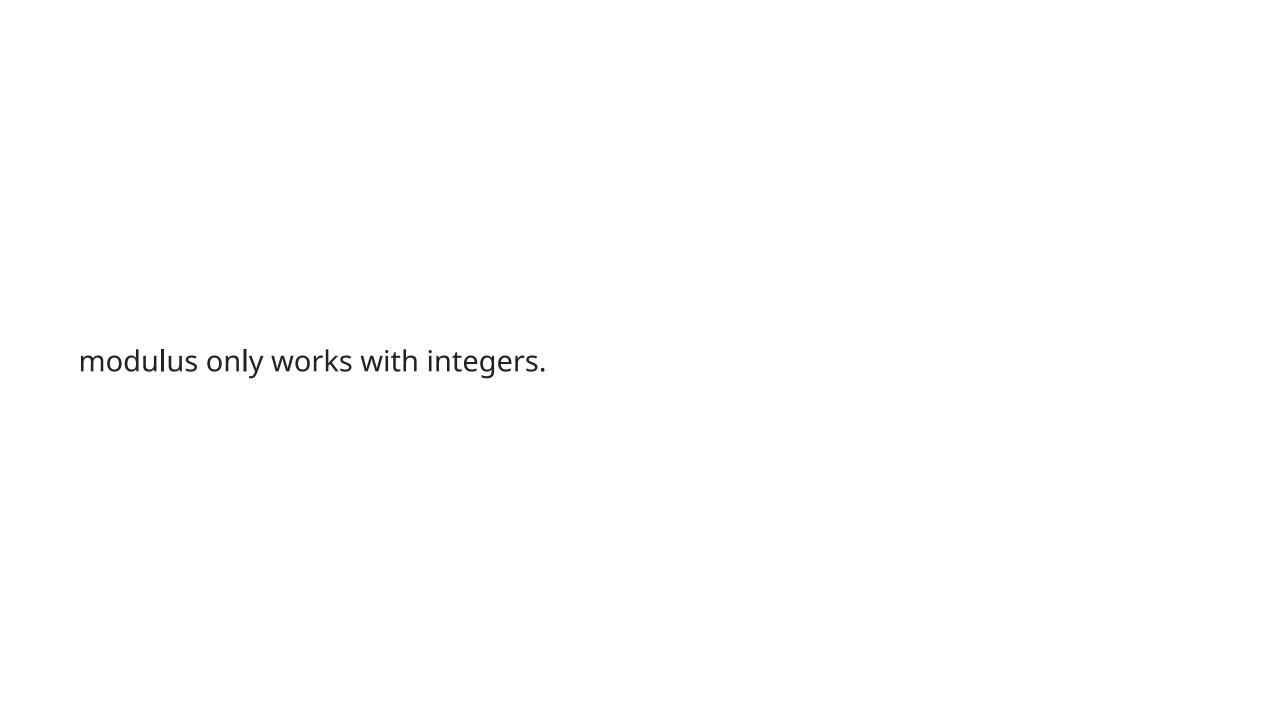
Program 4: Calculate area of a rectangle.

Arithmetic Operators

Java supports arithmetic operators + - * / %

Program 5: Determine whether a number is even or odd.

% is called modulus, it gets remainder of division.



Program 6: Divide two integers.

Dividing two integers yields an integer. If you want a fraction, cast it to double or float.

Assignment Operators

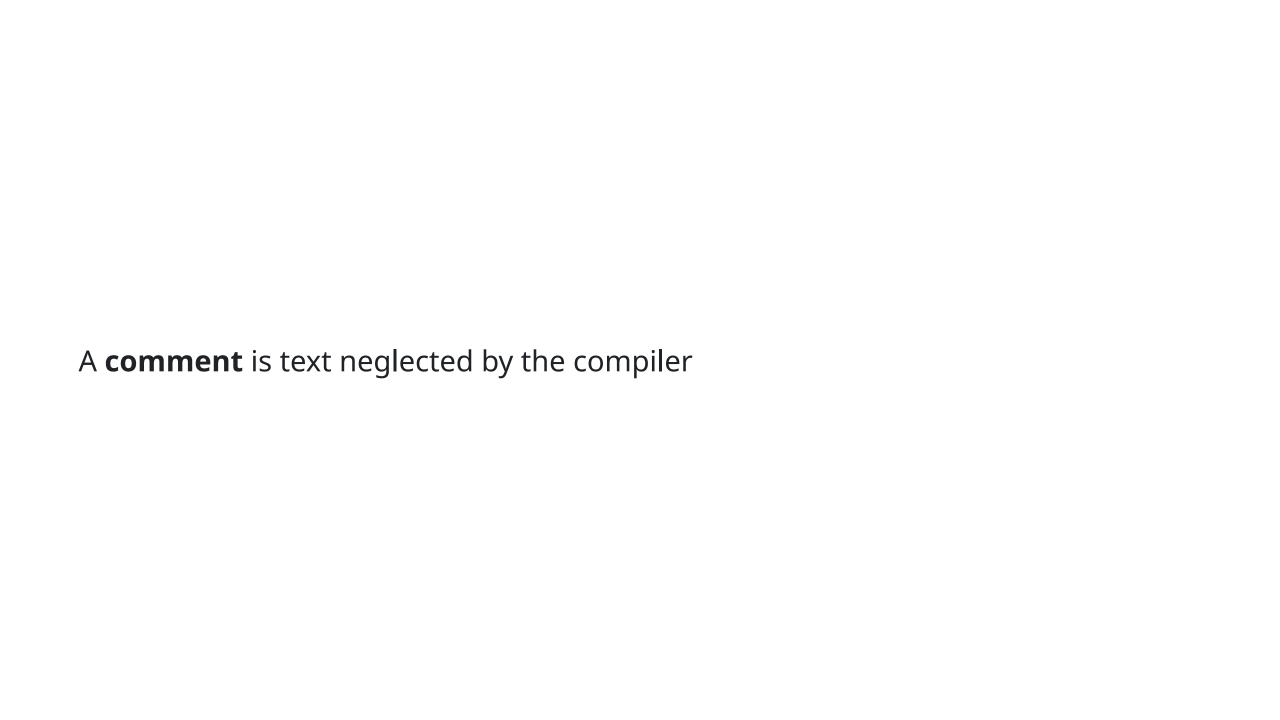
Instead of writing x = x + 5 you may write x += 5

Assignment Operators

There also these operators += -= *= /=

x++ means x = x + 1

x-- means x = x - 1



Different data types have differnet sizes

Integral Types:

- int 4 bytes
- long 8 bytes
- short 2 bytes
- byte 1 byte

Fractional Types:

- float 4 bytes
- double 8 bytes



