

# Lecture 18. Java Basics — An Overview

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## Variables

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A container that stores some data

- Our computer has a **memory** where we can store things.
- To be able to store something in the memory we have to reserve some space.  
→ Variable.
- Each variable has a specific type.
- It is called a variable because the value inside it can change.

## Data types

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We have different types of data

Examples:

- Text.
- Numbers.
- Boolean. (true/false)
- User defined types. (Car, Person, ...)

These types are also for variables

## Operators (运算符)

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Ariyhmetic, relational, and logical operators

- Arithmetic: to do some calculations. (+, −, ...)
- Relational: to do some comparisons. (<, >=, ...)
- Logical: to combine conditions together. (AND, OR, ...)

## Conditions (条件)

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Used to control what to execute in our program

- if a condition is true → do something.
- If it is not true → do another thing.

## Loops (循环)

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used to run some code more than once

- While loop.
- Do while loop.
- For loop.
- For each loop.

## Methods

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Divide our code into smaller pieces (将我们的代码分成更小的部分)

- Less code in main().
- Our program will be easier to maintain and debug.
- Our program will be easier to understand.
- Makes the development process easier by breaking our program to smaller pieces and solving them one by one.