

1 Objects, Strings, and methods – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)
object	对象	_____
method	方法	_____

Recall

In Part A you met variables and types. Now meet **objects** and how to use them:

- An object is a "thing" in a program, like a piece of text (a **String**).
- You do things to an object by calling its methods.

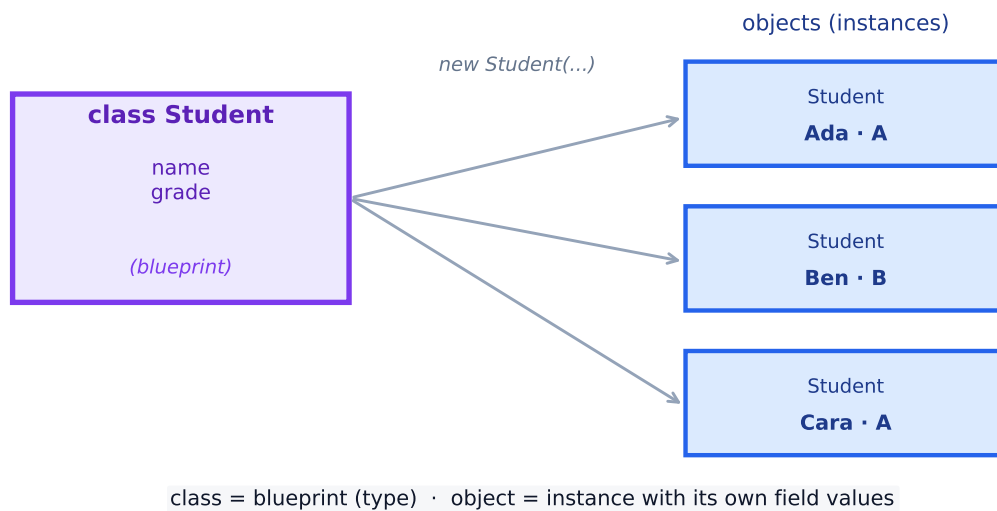
Each idea has a worked example before the Practice.

New ideas

■ 1 Objects

An **object** 对象 bundles data with actions (methods). You create one with **new**:

```
Scanner in = new Scanner(System.in);  
String s = "COMPUTER";
```



■ 2 Calling a method

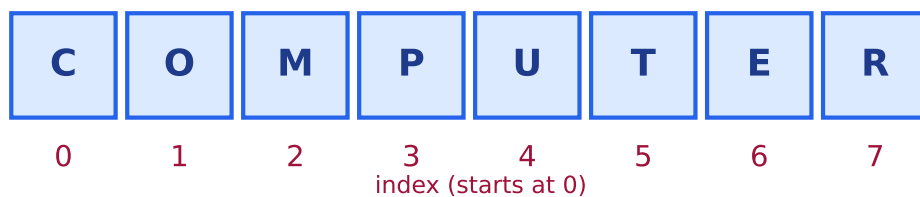
A **method** 方法 is an action you run on an object, written `object.method(...)`:

```
s.length();           // how many characters
s.substring(0,4);     // part of the text
```

■ 3 Strings

A **String** is text, and its characters are numbered from 0.

"COMPUTER".substring(0, 4) → "COMP"



valid indices: 0 ... `s.length() - 1` · `s.charAt(i)` is the char at *i*

Worked example. For `String s = "COMPUTER"`: `s.length()` is 8; `s.substring(0,4)` is "COMP" (characters 0,1,2,3, index 4 excluded).

■ 4 Comparing text

Use `.equals(...)` to compare Strings, not `==`.

Watch out: `s.substring(a, b)` includes index *a* but **excludes** *b*. And String characters count from 0, so the first character is index 0, not 1.

Practice

Try these in order. The methods are all above. Use `String s = "PROGRAM";` (indices 0–6).

2.1 State what an object is, in your own words. [2]

2.2 Find `s.length()`. [1]

2.3 Find `s.substring(0,4)`. [2]

2.4 Find `s.substring(3)` (from index 3 to the end). [2]

2.5 State which character is at index 0 of `s`. [1]
