

# 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.

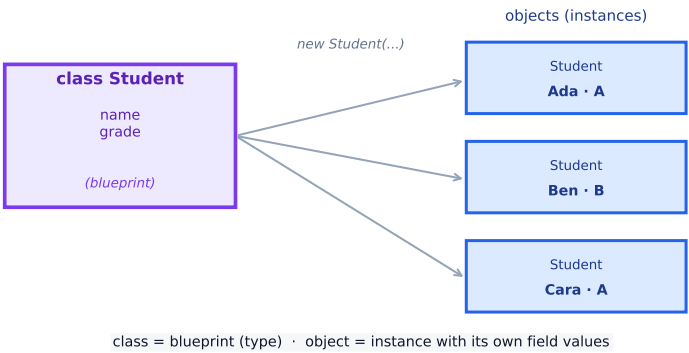
Each idea has a worked example before the Practice.

## 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";
```



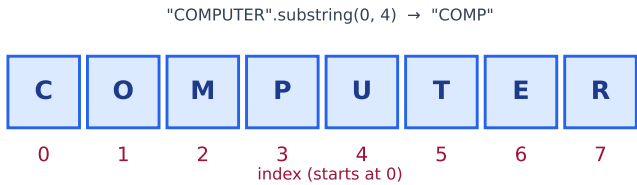
### ■ 2 Calling a method

A **method** 方法是 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.



*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]

---