1 Objects, Strings, and methods – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)
object	
method	

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.

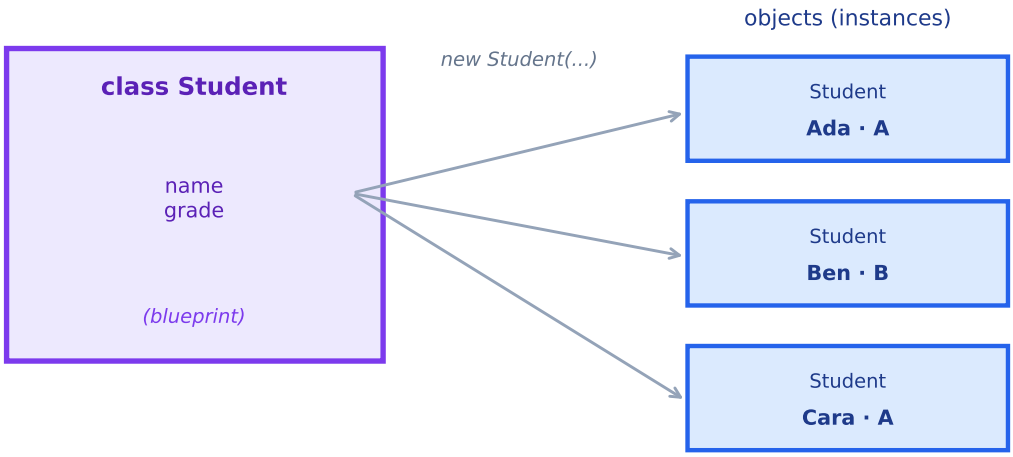
Each idea has a worked example before the Practice.

New ideas

■ 1 Objects

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

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



class = blueprint (type) · object = instance with its own field values

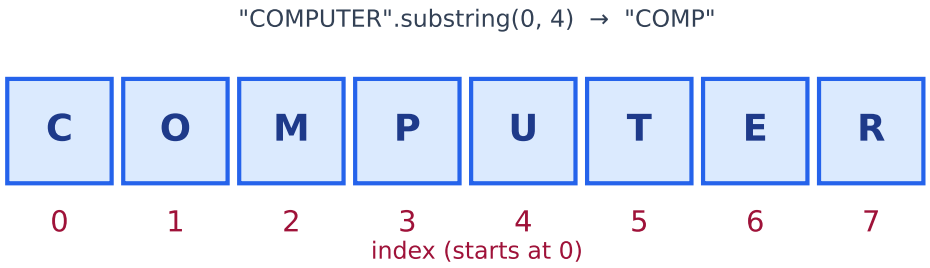
2 Calling a method

A **method** 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`.



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]

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