

Exercise walk-through

Methods: How to Write Them ■ 3.5

eXercise

You must be able to

- write an **accessor** 访问器 (getter) that returns an instance variable
- write a **mutator** 修改器 (setter) that changes an instance variable
- give a method a **return type** 返回类型 and use `return`

Method — Accessor and mutator

- An **accessor** (getter) **returns** the value of an instance variable.
- A **mutator** (setter) **changes** it.

```
k+kdpublic+w k+ktint+w n+nfgetAgep(p)+w      p+w kreturn+w nagep;+w p+w
k+kdpublic+w k+ktvoid+w n+nfsetAgep(k+ktint+w nap)+w p+w nage+w o=+w nap;+w
```

Method — Return type

Every method states a **return type**; `return` sends back a result. A `void` method returns nothing.

Practice 2.1 ■ 1 mark

State what an accessor method does.

Solution 2.1

Worked steps

it returns the value of an instance variable **B1**.

Practice 2.2 ■ 1 mark

State what a mutator method does.

Solution 2.2

Worked steps

it changes the value of an instance variable **B1**.

Practice 2.3 ■ 1 mark

State what the keyword `return` does.

Solution 2.3

Worked steps

it sends a result back to the caller **B1**.

Exam-style 3.1 ■ 1 mark

A getter (accessor) method

- A** changes a variable
- B** returns a variable's value
- C** prints output
- D** deletes a variable

Solution 3.1

Method: Accessor and mutator

- A changes a variable
- B returns a variable's value**
- C prints output
- D deletes a variable



Worked steps

B.

Exam-style 3.2 ■ 1 mark

A method that changes an instance variable is a

A getter

B setter (mutator)

C constructor

D void loop

Solution 3.2

Method: Accessor and mutator

A getter

B setter (mutator) 

C constructor

D void loop

Worked steps

B.

Exam-style 3.3 ■ 1 mark

```
public int getScore() { return score; }.
```

- (a) Name this kind of method.
- (b) State its return type.
- (c) State what a matching setter would do.

Solution 3.3

Worked steps

(a) an accessor (getter) **B1**. (b) int **B1**. (c) change (set) the score **B1**.