

Exercise walk-through

3.3

Anatomy of a Class

AP Computer Science A

The anatomy of a class

class Dog

```
private String name;
```

```
private int age;
```

fields (the object's data)

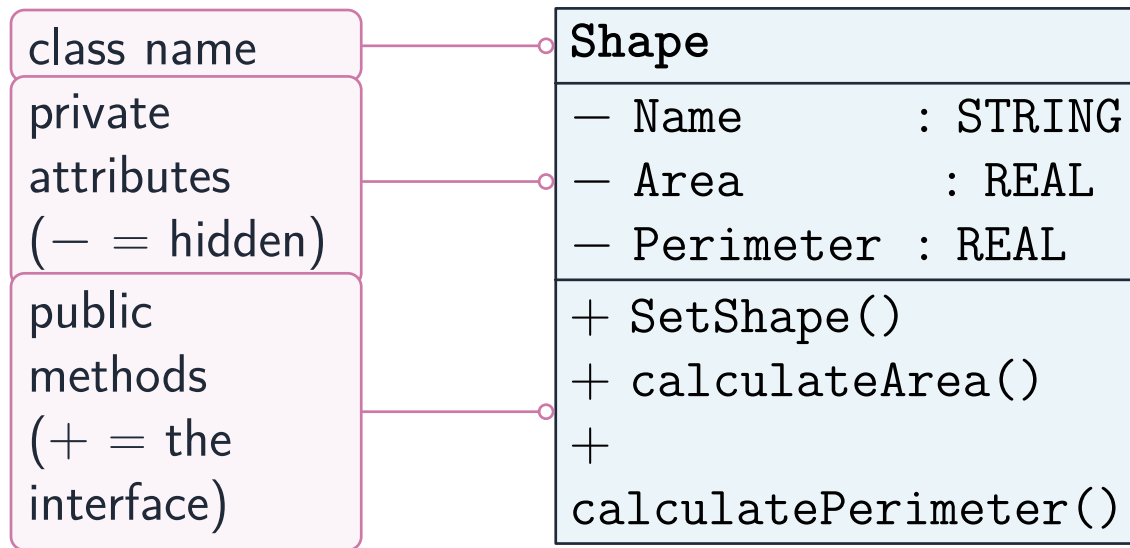
```
public Dog(String n) ... constructor
```

```
public void bark() ... methods
```



Jigsaw design

A class diagram



A class diagram: private attributes and public methods

Constructors & methods

Constructor

runs once at `new`; sets the object's initial **fields**

Method

a named action; may take **parameters** and return a value

A method **returns** a value with `return`; a void method returns nothing.

Exercises 2.1-2.3

2.1 Name the three parts of a class.

[2]

2.2 State what instance variables hold.

[1]

2.3 State the access modifier used to hide data.

[1]

Exercises 2.1-2.3

2.1 Name the three parts of a class. [2]

2.1

- instance variables, constructors, methods
-

2.2 State what instance variables hold. [1]

2.2

- the state (data) of each object
-

2.3 State the access modifier used to hide data. [1]

2.3

- `private`

Exercises 3.1-3.2

3.1 The state of an object is held in its

[1]

☐

A methods

B instance variables

C constructors

D comments

3.2 To hide a class's data, declare it

[1]

☐

A public

B private

C static

D void

Exercises 3.1-3.2

3.1 The state of an object is held in its

[1]

☐

A methods

B instance variables

C constructors

D comments

3.1 B

- instance variables.

3.2 To hide a class's data, declare it

[1]

☐

A public

B private

C static

D void

3.2 B

- private.

Exercise 3.3 (a)

3.3 A `BankAccount` class stores a balance.

(a) Name what the balance is (which part of the class).

[1]

Exercise 3.3 (a)

3.3 A `BankAccount` class stores a balance.

(a) Name what the balance is (which part of the class).

[1]

(a)

- an instance variable

Exercise 3.3 (b)

3.3 A `BankAccount` class stores a balance.

(b) State the modifier to keep it hidden.

[1]

Exercise 3.3 (b)

3.3 A `BankAccount` class stores a balance.

(b) State the modifier to keep it hidden.

[1]

(b)

- `private`

Exercise 3.3 (c)

3.3 A `BankAccount` class stores a balance.

(c) Name the idea of hiding data behind methods.

[1]

Exercise 3.3 (c)

3.3 A `BankAccount` class stores a balance.

(c) Name the idea of hiding data behind methods.

[1]

(c)

- encapsulation