Features of an Object Oriented Language

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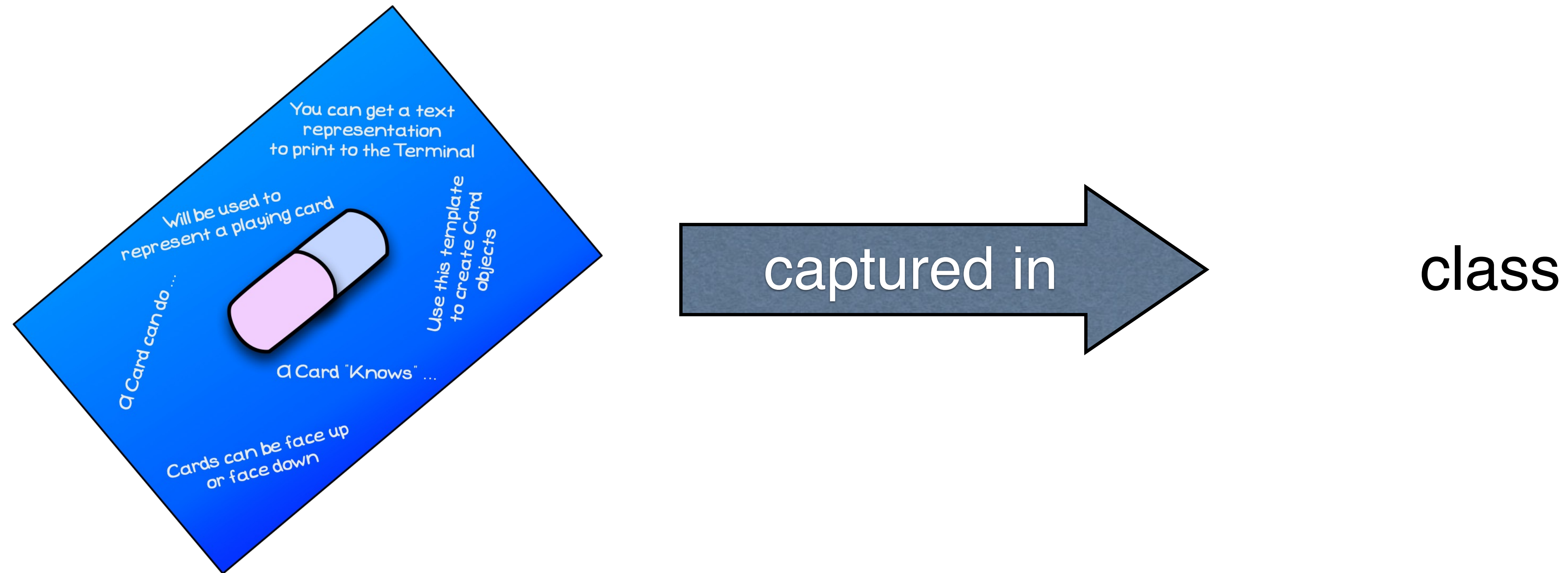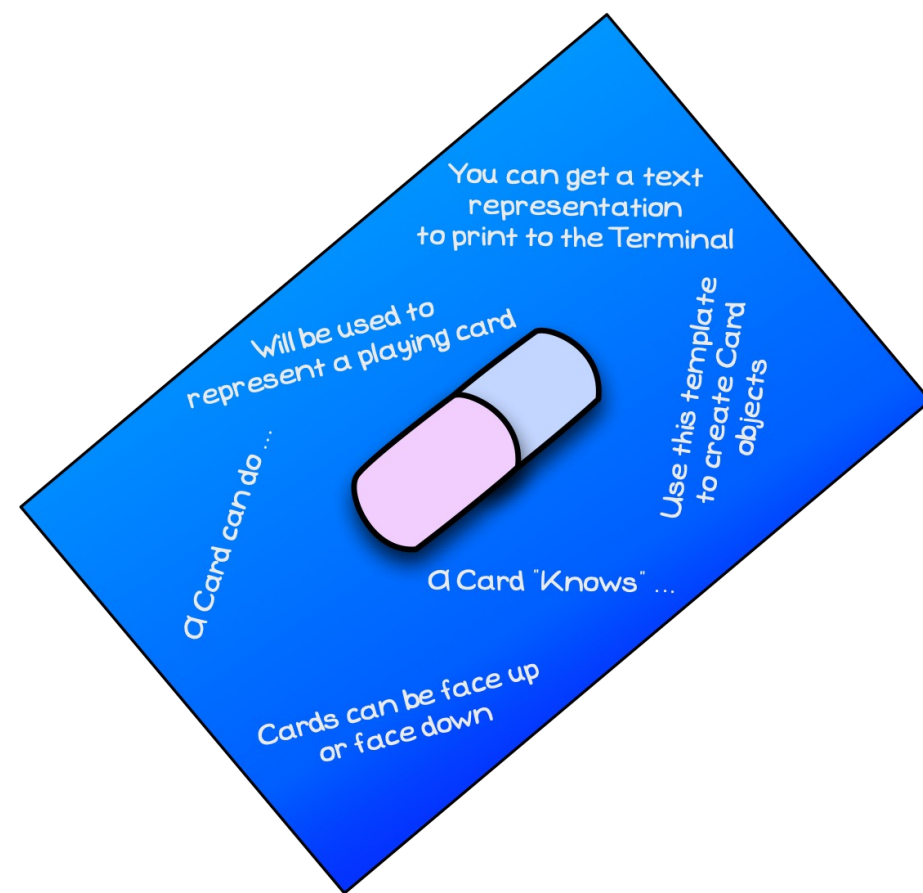
Learning Outcomes

- Understand key concepts of Class definition in OOPs
  - Class
  - Field
  - Method
  - Properties
  - Constructors

# Implement your designs using an object oriented programming language

Define classes to capture object specifications

You can get a text representation to print to the Terminal

Will be used to represent a playing card

Use this template to create Card objects

A Card can do ...

A Card "Knows" ...

Cards can be face up or face down
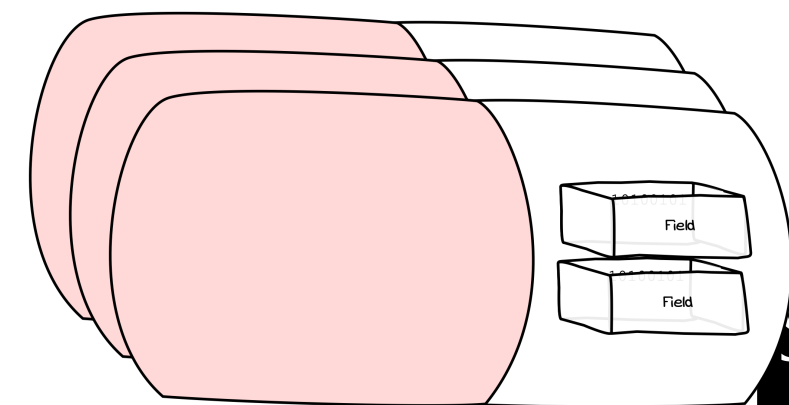
captured in → class

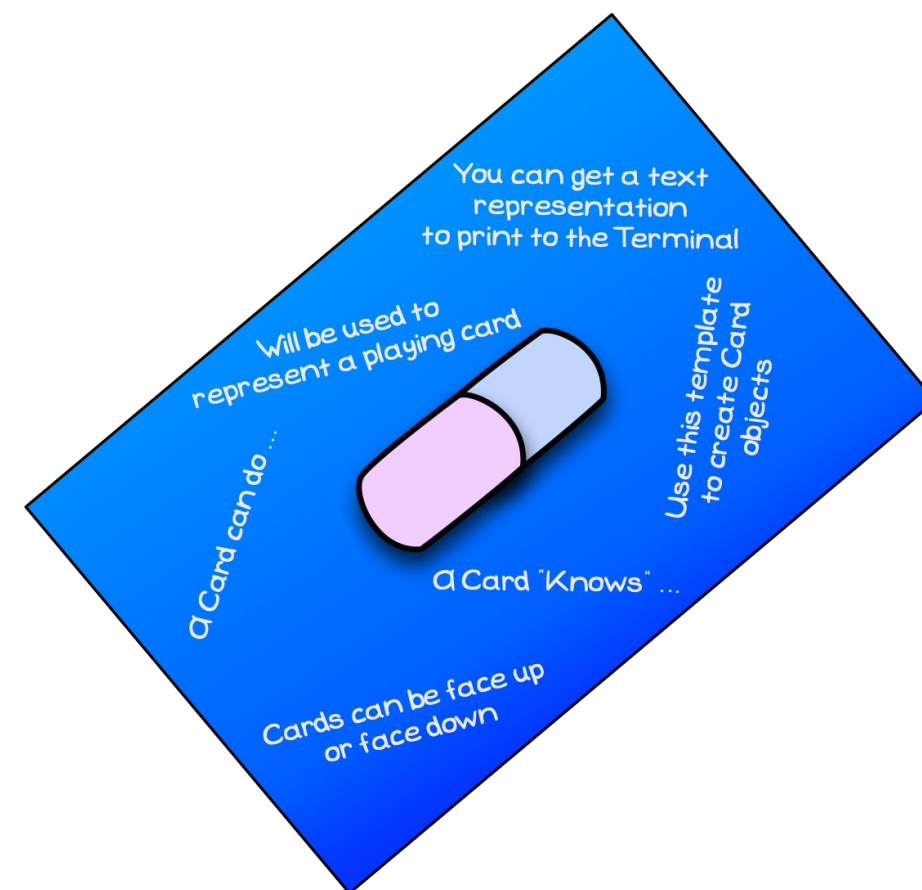# Add private fields to the class to store the things the object knows

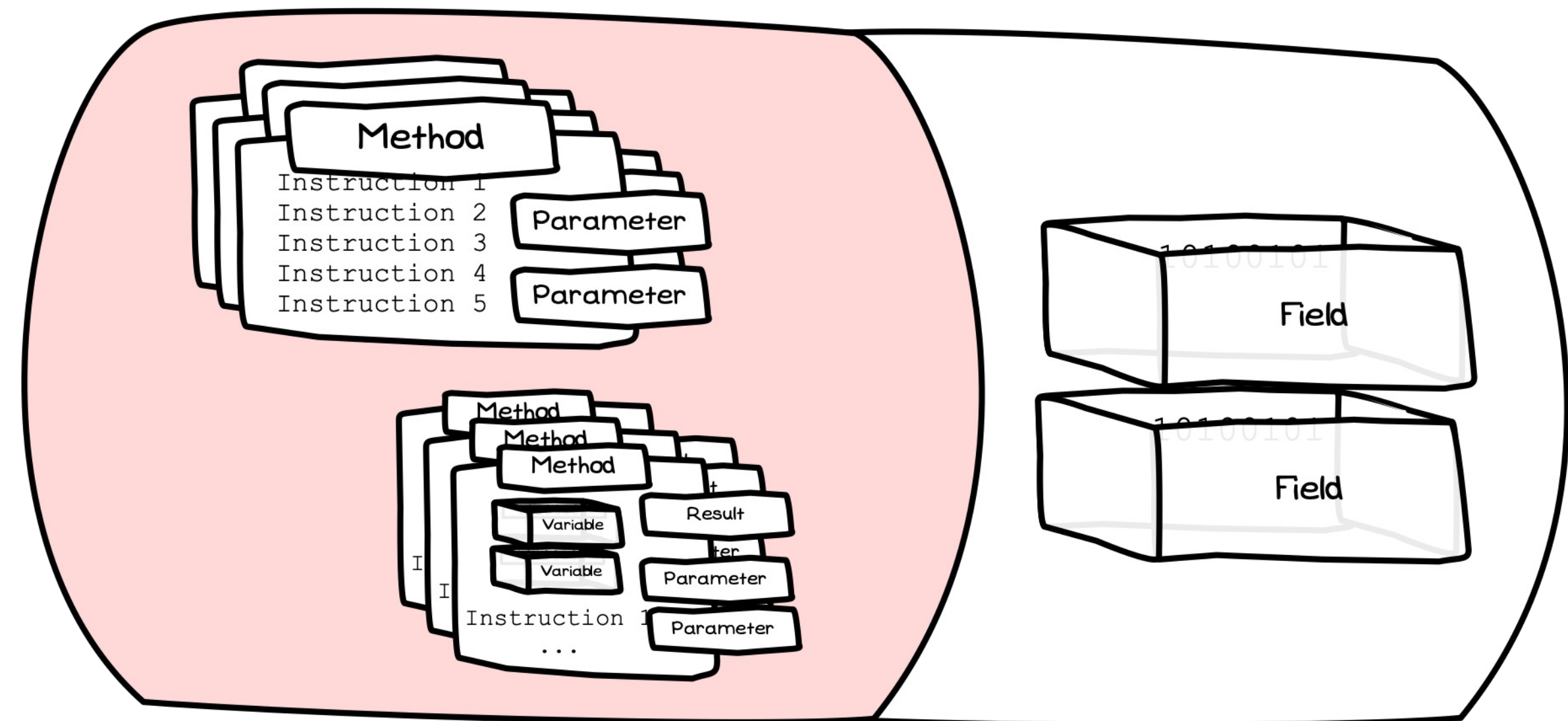Field are declared within the class
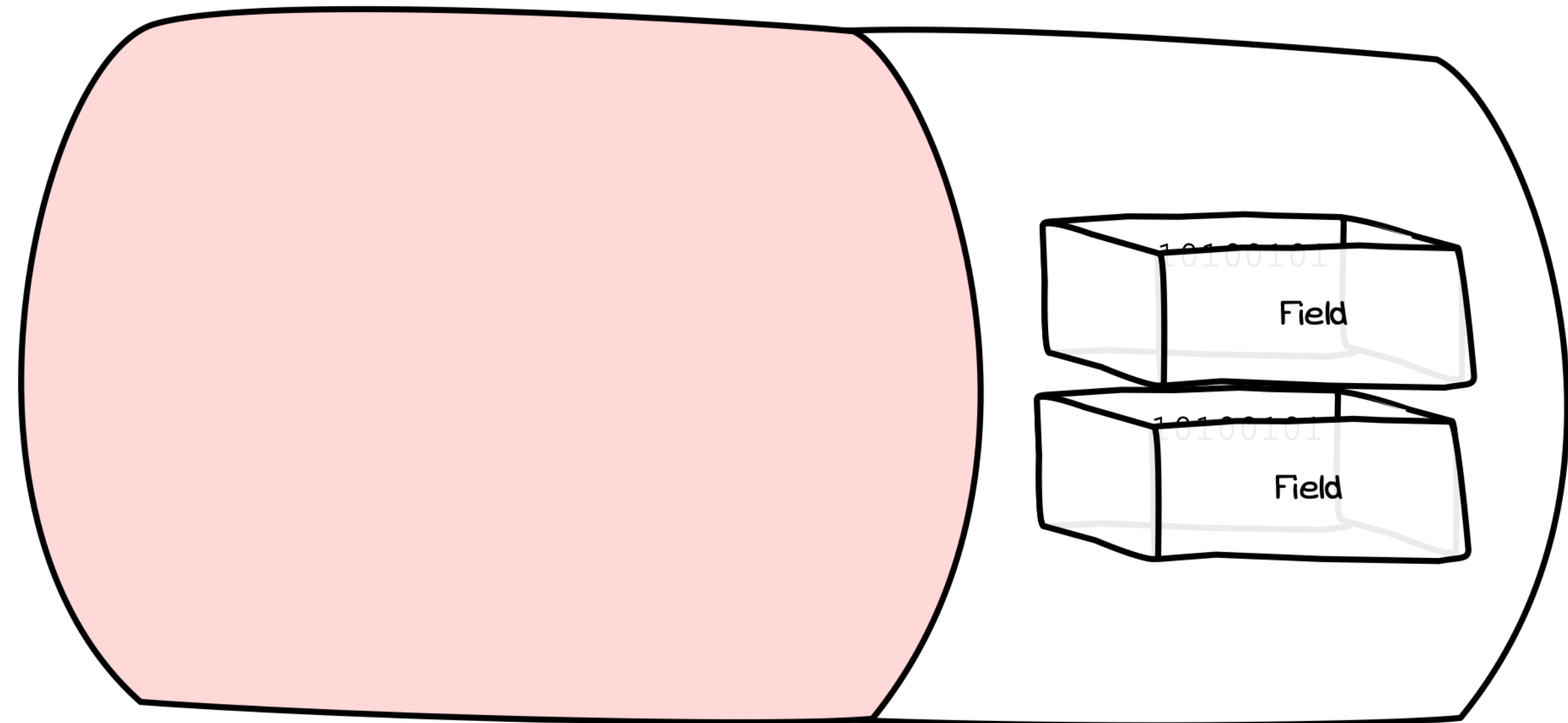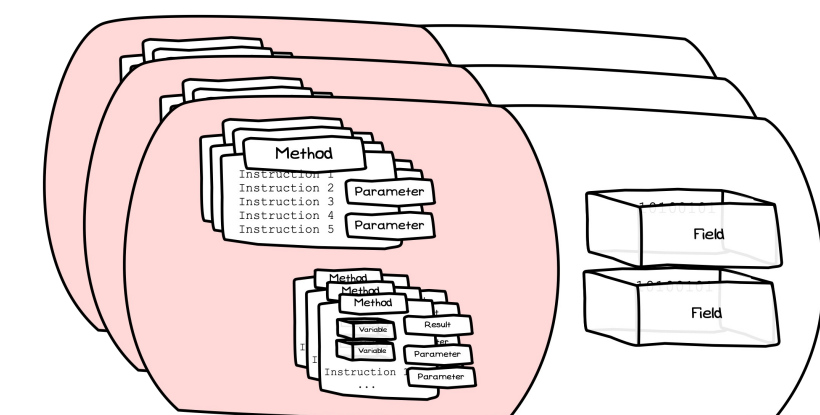

The field exists within each object

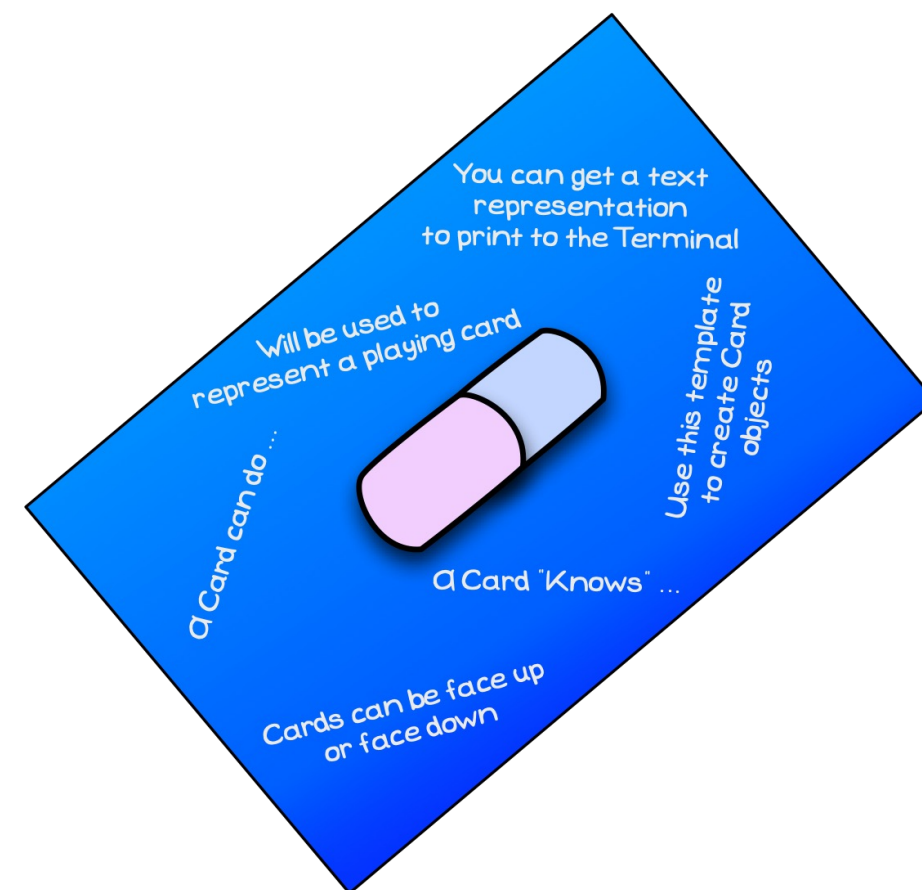# Add methods to the class to code the things the object can do
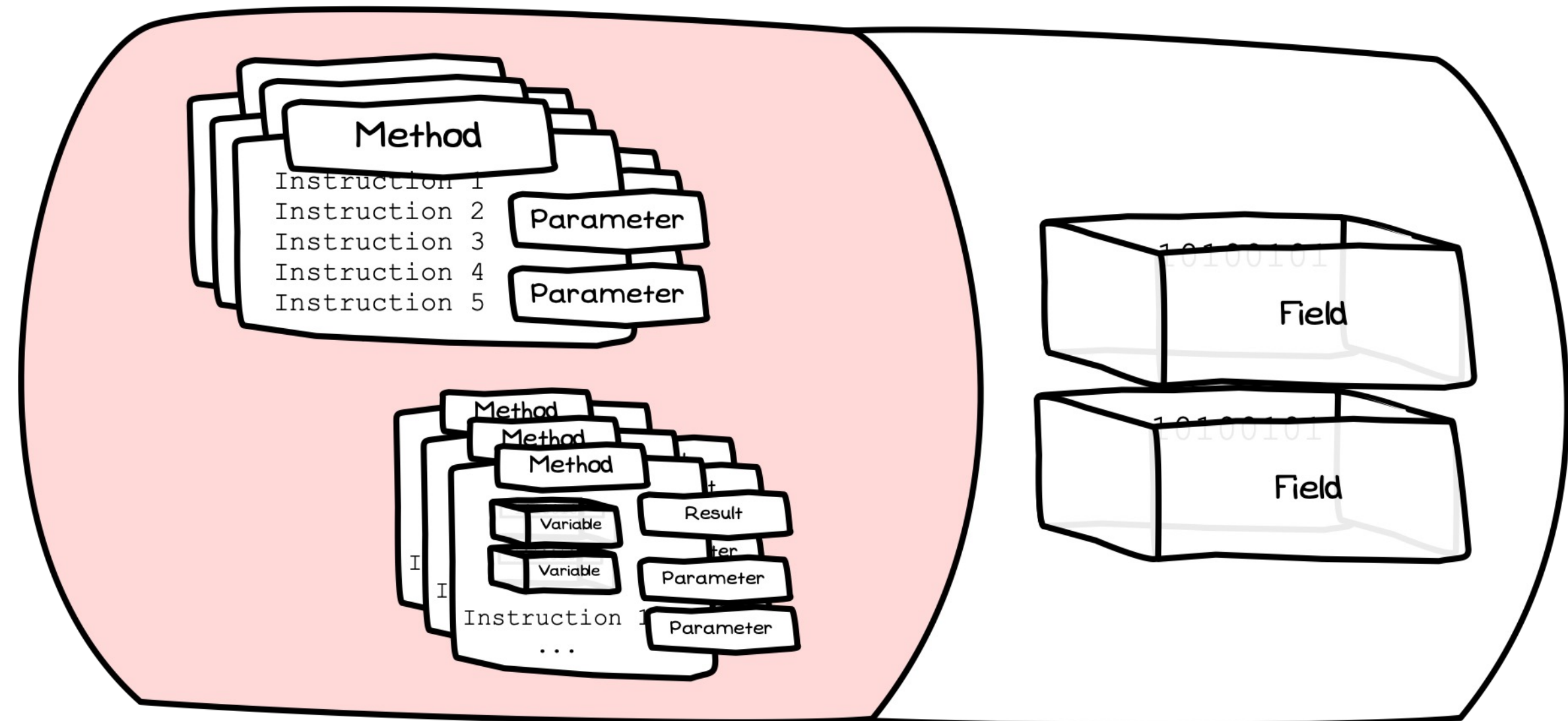

Methods are declared within the class

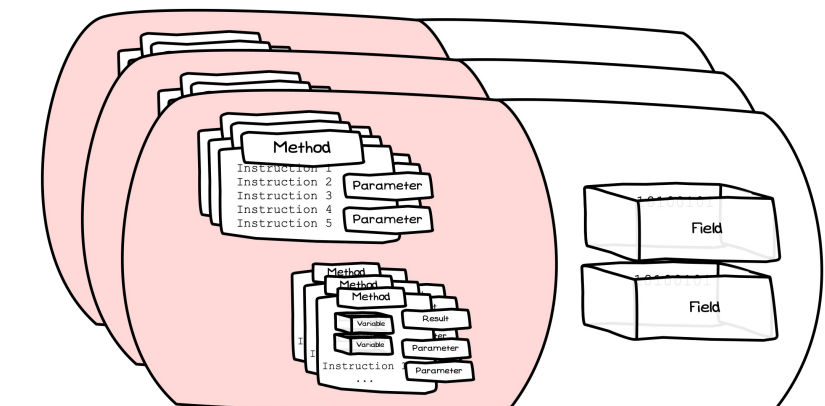The methods exist for each object

Add properties to the class to give access to hidden data
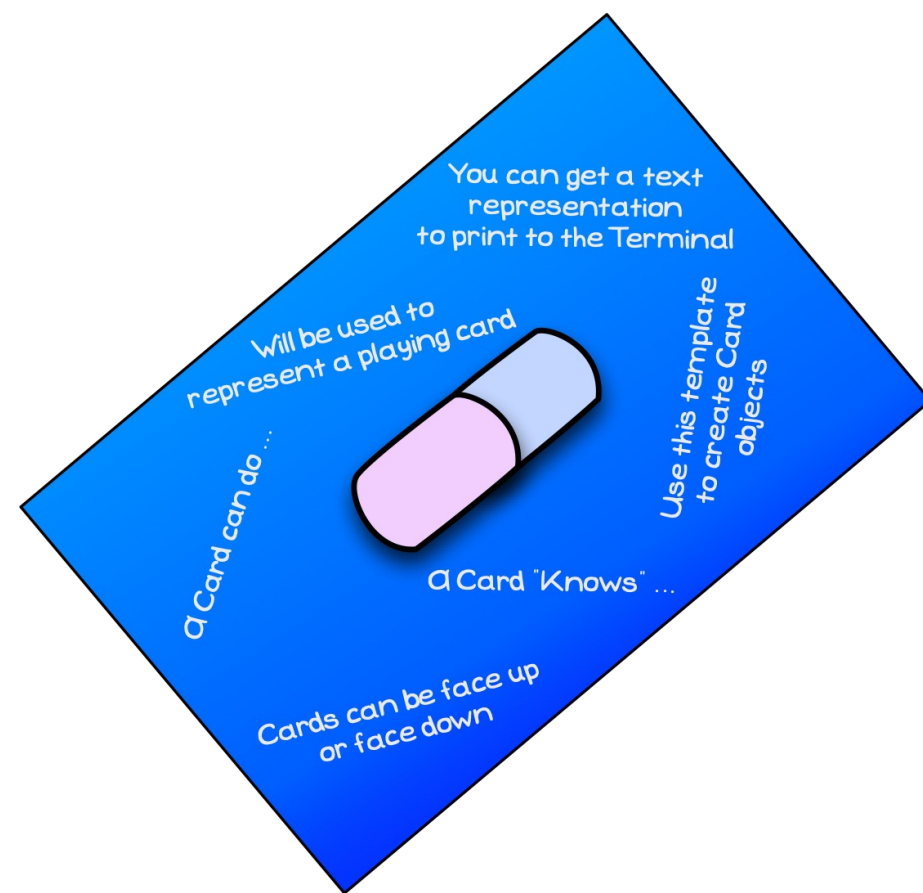
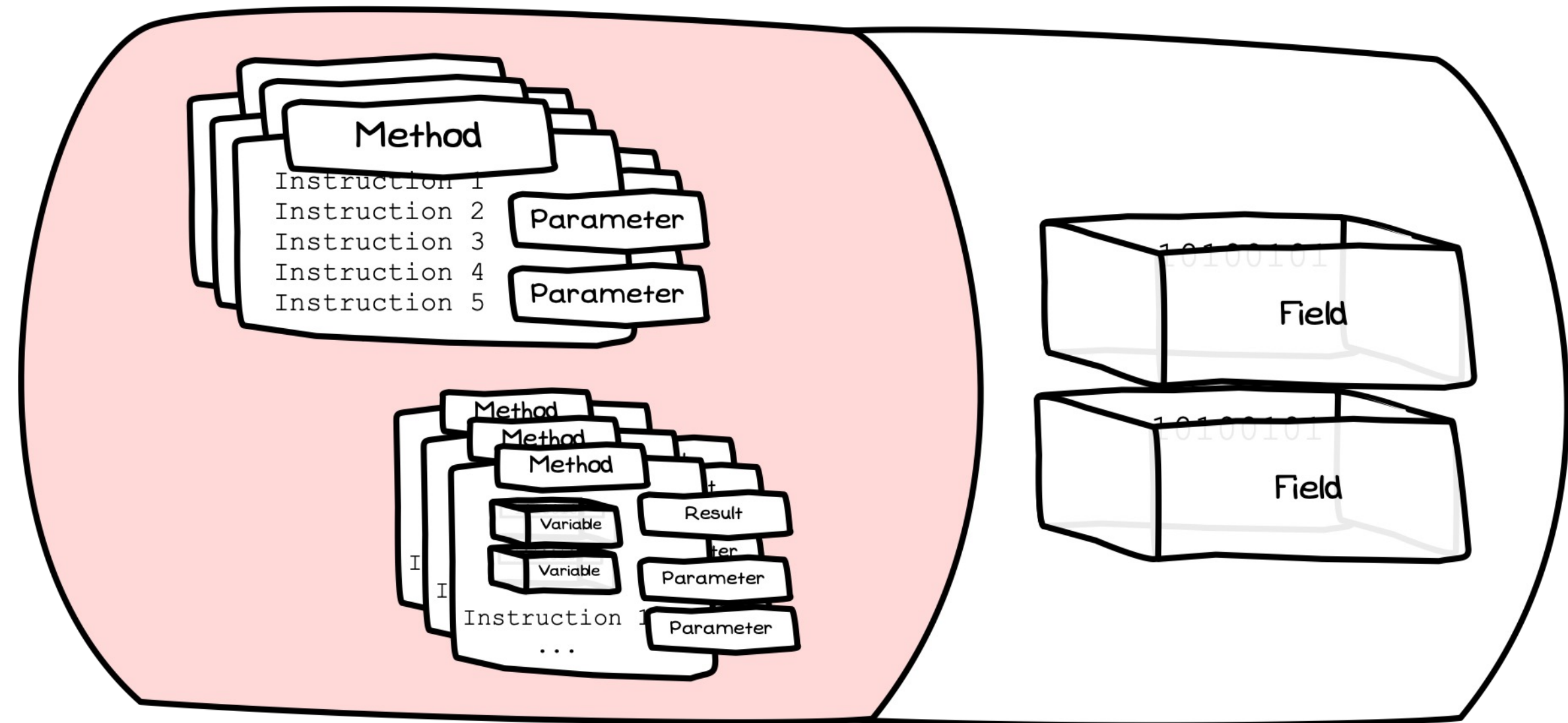Properties are get and set methods declared within the class

The properties exist for each object

Add special methods called constructors to initialise your objects when created

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Method
Instruction 1
Instruction 2
Instruction 3
Instruction 4
Instruction 5
Parameter
Parameter

Method
Method
Method
Variable
Result
Variable
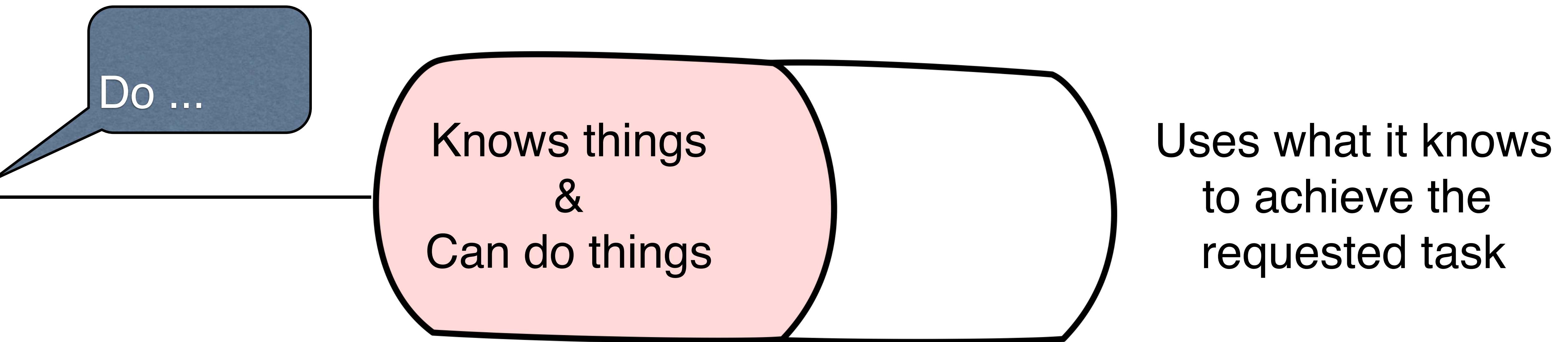Parameter
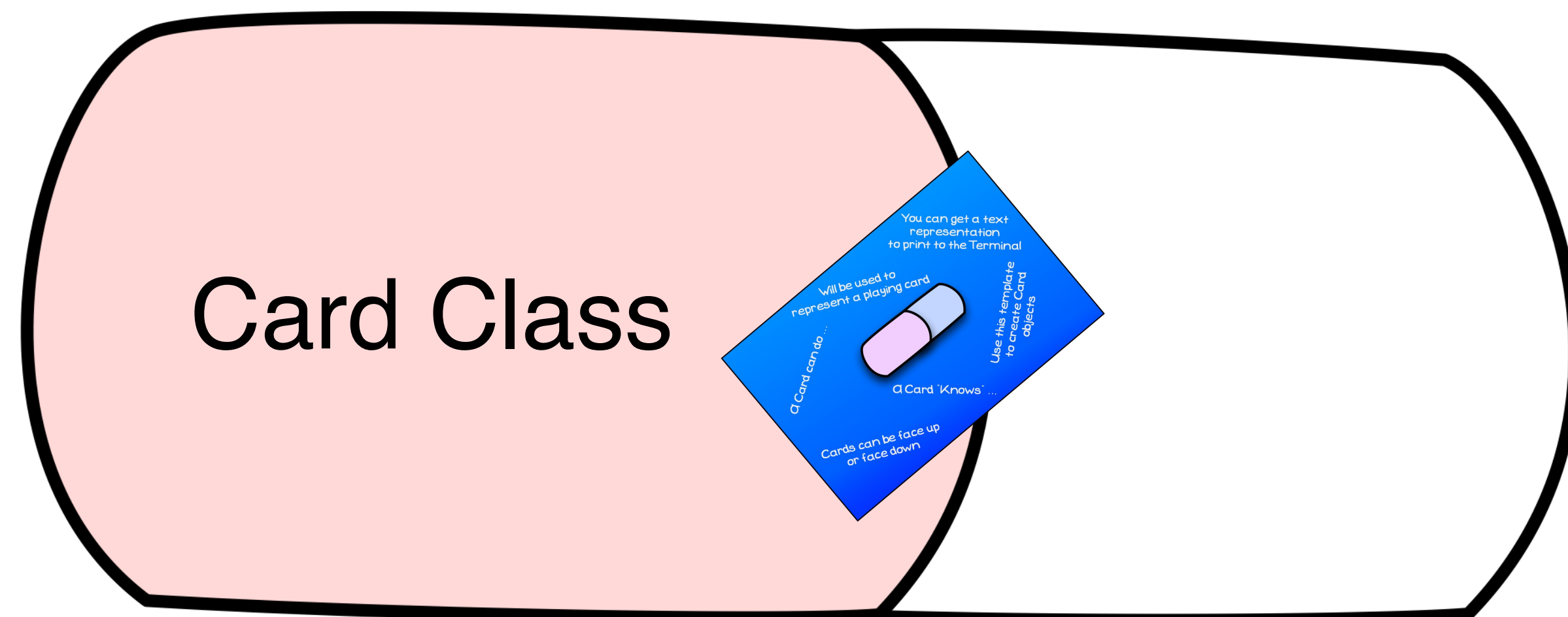Instruction
Parameter
...

Field

Field

Constructors are declared within the class

These define how to create/initialise the objects.
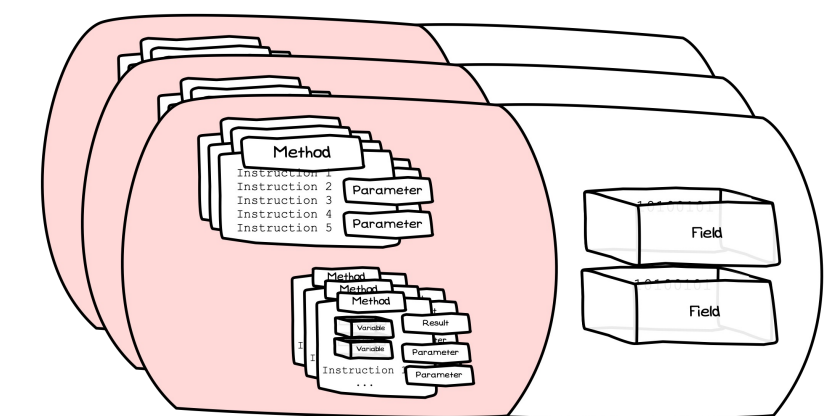
In your program create objects, and get them to do things...

Do ...

Knows things
&
Can do things

Uses what it knows to achieve the requested task

At runtime classes also become objects that provide services

Card Class

Can create objects...

You can add features to class objects in your code

Card Class

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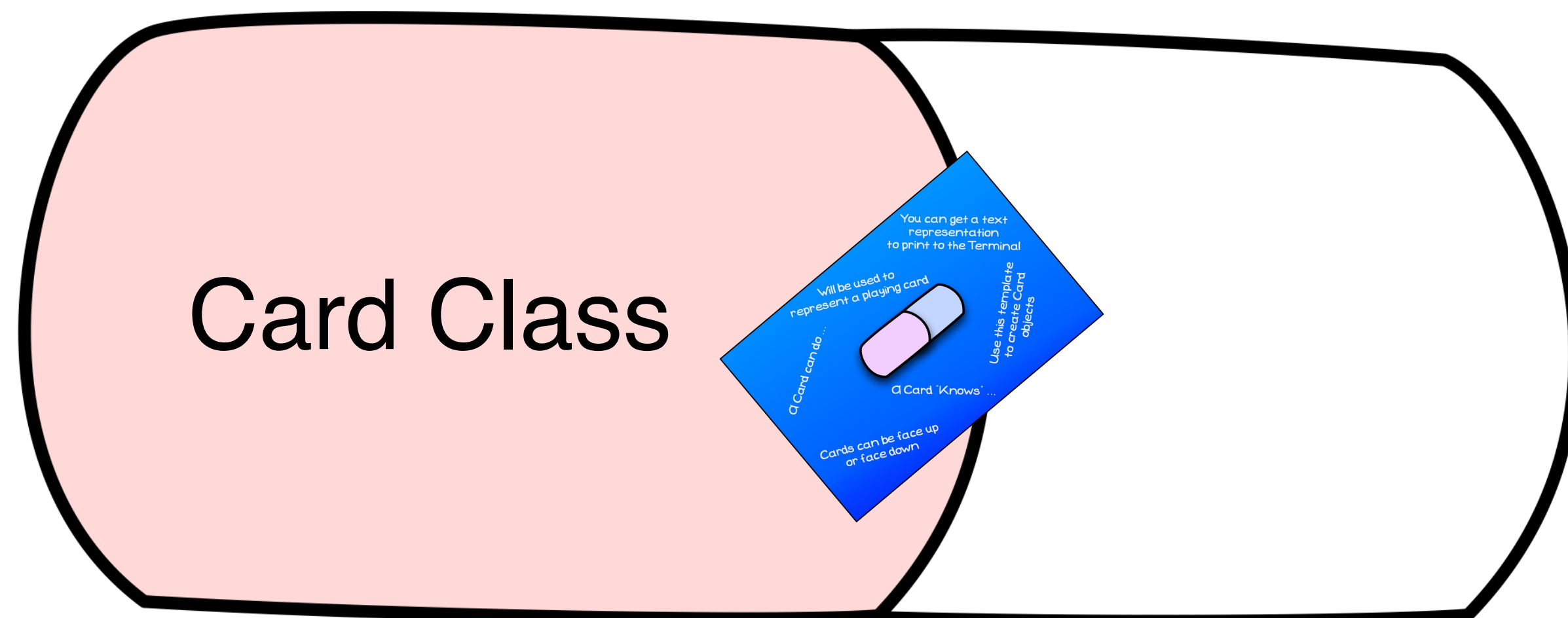
Can create objects...
You can add more...

Object orientation offers new means of managing complexity

Objects combine data and functionality, creating larger more meaningful abstractions

Take away message

- Define Classes to capture object specifications in your software

- Define a class in each programming file

- Define a class including constructors, fields, methods, and properties

- We can define multiple objects can be initiated from a predefined class

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Get started creating object oriented programs