

# Computer Programming

## Lesson 4 - Classes

# Review

# Classes

# Object Oriented Programming

- Encapsulation
- Abstraction
- Polymorphism
- Inheritance

# Variables and Scope

- Local Variables - defined in method
- Instance Variables - available across methods for any instance of a class (denoted with @)
- Class Variables - available across different objects (denoted with @@)
- Global Variables - available across classes
- Constants - Immutable

# Classes and Objects

- Class - blueprint from which individual objects are created
- Object - an instance of a class

Your *bicycle* is an instance of the class of objects known as *bicycle*

# Properties and Functions

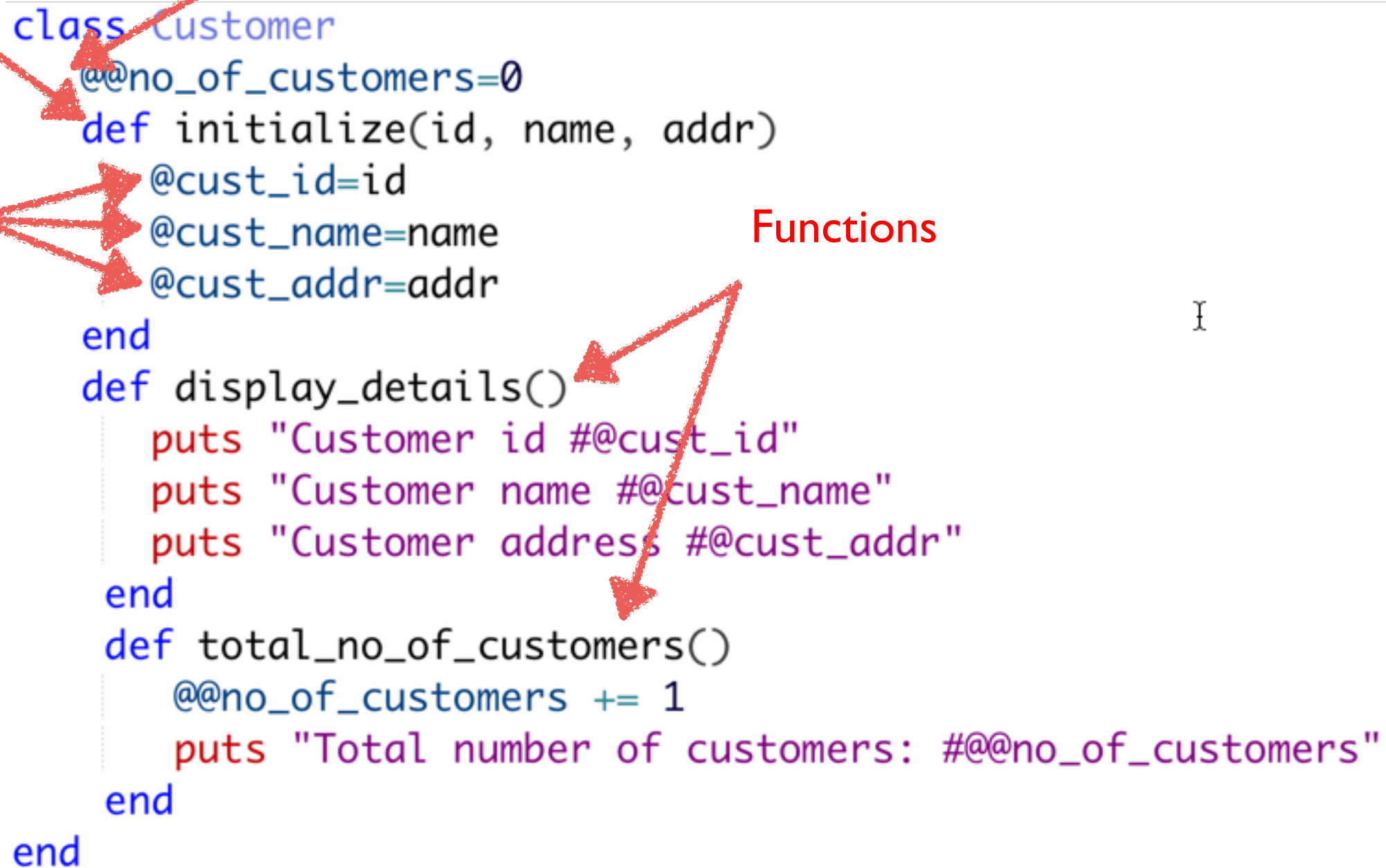
Initializer

Class Variables

Instance Variables

Functions

```
class Customer
  @@no_of_customers=0
  def initialize(id, name, addr)
    @cust_id=id
    @cust_name=name
    @cust_addr=addr
  end
  def display_details()
    puts "Customer id #@cust_id"
    puts "Customer name #@cust_name"
    puts "Customer address #@cust_addr"
  end
  def total_no_of_customers()
    @@no_of_customers += 1
    puts "Total number of customers: #@@no_of_customers"
  end
end
```



# Properties and Functions

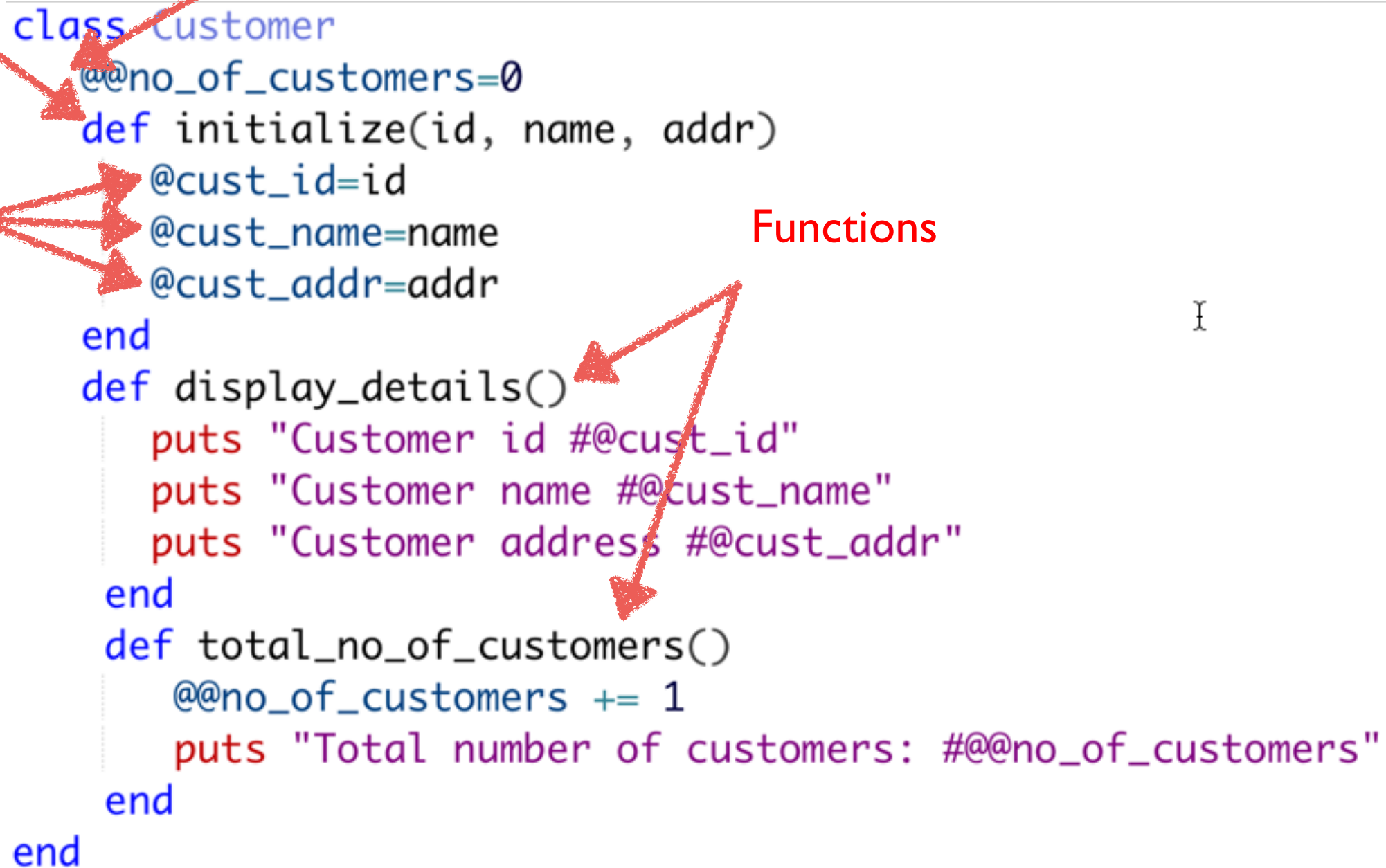
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**Convert Fizz Buzz to  
use a FizzBuzz  
Calculator Class**

Create a Class that will  
reverse the items in a  
string array

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