Evidence for Implementation and Testing Unit

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I.T 1- Demonstrate one example of encapsulation that you have written in a program.

I.T 2 - Example the use of inheritance in a program.

I.T 3 - Example of searching

Function that searches all the customer data:

```ruby
def self.map_items(customer_data)
  result = customer_data.map { |customer|
  Customer.new(customer) }
  return result
end

def self.all()
  sql = "SELECT * FROM customers"
  customer_data = SqlRunner.run(sql)
  return Customer.map_items(customer_data)
end
```

Result of the function running - Customer.all

```
[➜  codeclan_cinema git:(master) ✗ ruby db/console.rb

From: /Users/user/codeclan_work/week_03/homework/codeclan_cinema/db/console.rb @
 line 72 :

    67:   'customer_id' => customer2.id
    68:   })
    69: ticket4.save()
    70:
    71: binding.pry
 => 72: nil

[1] pry(main)> Customer.all
=> [#<Customer:0x007fbfcdb8c358 @funds="100", @id=55, @name="Brad Pitt">,
 #<Customer:0x007fbfcdb8c240 @funds="800", @id=56, @name="Angelina Jolie">,
 #<Customer:0x007fbfcdb8c128 @funds="800", @id=57, @name="Jennifer Aniston">]
[2] pry(main)>
```

Database view (not sure if this is required - delete?)

```
[➜  codeclan_cinema git:(master) ✗ psql -d codeclan_cinema -f db/codeclan_cinema.]
sql
DROP TABLE
DROP TABLE
DROP TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
[➜  codeclan_cinema git:(master) ✗ psql -d codeclan_cinema                       ]
psql (10.3)
Type "help" for help.

[codeclan_cinema=# SELECT * FROM customers;                                      ]
 id |       name       | funds
----+------------------+-------
  1 | Brad Pitt        |   100
  2 | Angelina Jolie   |   800
  3 | Jennifer Aniston |   800
(3 rows)

codeclan_cinema=#
```

I.T 4 – Example of sorting

Function that sorts data by films - ability to select a customer and return all the films they have tickets for.

```ruby
def films()
  sql = "SELECT films.* FROM films
  INNER JOIN tickets
  ON tickets.film_id = films.id WHERE
  customer_id = $1"
  values = [@id]
  film_data = SqlRunner.run(sql,values)
  return Film.map_items(film_data)
end
```

Result of the function running - customer1.films

```
[➜  codeclan_cinema git:(master) ✗ ruby db/console.rb

From: /Users/user/codeclan_work/week_03/homework/codeclan_cinema/db/console.rb @
 line 72 :

    67:   'customer_id' => customer2.id
    68:   })
    69: ticket4.save()
    70:
    71: binding.pry
 => 72: nil

[1] pry(main)> customer1.films
=> [#<Film:0x007fce532d52e8 @id=4, @price="10", @title="Pulp Fiction">,
 #<Film:0x007fce532d4f50 @id=5, @price="8", @title="A Prophet">]
[2] pry(main)>
```

Database view (not sure if this is required - delete?)

```
[➜  codeclan_cinema git:(master) ✗ psql -d codeclan_cinema
psql (10.3)
Type "help" for help.

codeclan_cinema=# SELECT films.* FROM films INNER JOIN tickets ON tickets.film_i
d = films.id WHERE customer_id = 4;
 id |    title     | price
----+--------------+-------
  4 | Pulp Fiction |    10
  5 | A Prophet    |     8
(2 rows)

codeclan_cinema=#
```

I.T 5 - Example of an array, a function that uses an array and the result

An array in a program - songs are part of an array.

```
def setup
  @song1 = Song.new("Mama Mia", "Abba")
  @song2 = Song.new("Dancing Queen", "Abba")
  @song3 = Song.new("Waterloo", "Abba")
  @song4 = Song.new("Money Money Money",
  "Abba")
  songs = [@song1, @song2, @song3]
  @room = Room.new("Vegas", 10, @guest_list,
  songs, 20, 0)
```

A function that uses the array

```ruby
def test_add_song_to_room
  @room.add_a_song(@song4)
  assert_equal(4,@room.songs.count())
end
```

```ruby
def add_a_song(song)
  @songs.push(song)
end
```

The result of the function running

```
➜  day_5 git:(master) ✗ ruby specs/room_spec.rb
Run options: --seed 34556

# Running:

....

Finished in 0.001148s, 3484.3206 runs/s, 3484.3206 assertions/s.

4 runs, 4 assertions, 0 failures, 0 errors, 0 skips
```

I.T 6 - Example of a hash, a function that uses a hash and the result

A hash in a program

```ruby
class Customer

  attr_reader :id
  attr_accessor :name, :funds

  def initialize(options)
    @id = options['id'].to_i if options['id']
    @name = options['name']
    @funds = options['funds']
  end
```

A function that uses the hash

```ruby
class TestCustomer < MiniTest::Test

  def setup
    @customer1 = Customer.new({
      "name"=>"Brad Pitt",
      "funds" => 100
    })
  end

  def test_name
    assert_equal("Brad Pitt", @customer1.name())
  end
```

The result of the function running

```
➜  codeclan_cinema git:(master) ✗ ruby specs/customer_specs.rb
Run options: --seed 23379

# Running:

.

Finished in 0.000987s, 1013.1712 runs/s, 1013.1712 assertions/s.

1 runs, 1 assertions, 0 failures, 0 errors, 0 skips
```

I.T 7 - Example of polymorphism in a program

Evidence for unit