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.

```java
public class Hotel {
    private ArrayList<Room> allRooms;

    public Hotel(ArrayList<Room> allRooms){
        this.allRooms = allRooms;
    }
}
```

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

Room is an Abstract Class

```java
public abstract class Room {
    private int capacity;
    private ArrayList<Guest> guests;

    public Room(int capacity, ArrayList<Guest> guests){
        this.capacity = capacity;
        this.guests = guests;
    }



    public int getCapacity(){
        return this.capacity;
    }
}
```

Bedroom class inherits from Room class

```java
public class Bedroom extends Room {
    private int roomNumber;
    private BedroomType type;
    private double nightlyRate;

    public Bedroom(int capacity, ArrayList guests, int roomNumber, BedroomType type, double nightlyRate){
        super(capacity, guests);
        this.roomNumber = roomNumber;
        this.type = type;
        this.nightlyRate = nightlyRate;
    }
}
```

Bedroom object inheriting properties from Room

```java
guest = new Guest( name: "Antoin");
guests = new ArrayList();
bedroom = new Bedroom( capacity: 2, guests , roomNumber: 1, BedroomType.DOUBLE, nightlyRate: 80.00);
```

Able to get the capacity of the bedroom using the method getCapacity() inherited from Room class (seen in first screenshot)

```java
@Test
public void canGetCapacity(){
    assertEquals( expected: 2, bedroom.getCapacity());
}
```

I.T. 3 - Example of Searching.

A function to search for an animal by its ID, followed by the function running in the terminal.

```ruby
def self.find(id)
   sql = "SELECT * FROM animals
   WHERE id = $1"
   values = [id]
   result = SqlRunner.run(sql, values).first
   animal = Animal.new(result)
   return animal
end
```

```
[3] pry(main)> Animal.find(3)                                    ]
=> #<Animal:0x007faca465b898
 @admission_date="December 2017",
 @adoptable=true,
 @adopted=true,
 @id=3,
 @name="Django",
 @type="Hamster",
 @url=
  "http://absfreepic.com/absolutely_free_photos/small_photos/cute-
hamster-with-yellow-hair-2516x1667_93382.jpg">
```

I.T. 4 - Example of Sorting.

A function to find all animals that are ready for adoption, followed by the function running in terminal.

```
def self.ready_for_adoption()
  sql = "SELECT * FROM animals WHERE adoptable = 't' AND
  adopted = 'f'"
  animal_data = SqlRunner.run(sql)
  animals = map_items(animal_data)
  return animals
end
```

```
[4] pry(main)> Animal.ready_for_adoption
=> [#<Animal:0x007faca4623038
  @admission_date="April 2018",
  @adoptable=true,
  @adopted=false,
  @id=5,
  @name="Beyonce",
  @type="Giant Rabbit",
  @url=
   "http://flemish-giant.com/wp-content/uploads/2015/10/Flemish-Gi
ant-Rabbit-Light-Grey.jpg">,
 #<Animal:0x007faca4622e80
  @admission_date="February 2018",
  @adoptable=true,
  @adopted=false,
  @id=6,
  @name="Pinky",
  @type="Cat",
  @url=
   "https://www.pets4homes.co.uk/images/breeds/23/large/3514efe61d
990b82bbc37bed00eea52a.jpg">,
 #<Animal:0x007faca4622cc8
  @admission_date="May 2018",
  @adoptable=true,
  @adopted=false,
  @id=7,
  @name="Monkey",
  @type="Guinea Pig",
  @url=
   "https://www.petmd.com/sites/default/files/guide-to-guinea-pigs
.jpg">,
 #<Animal:0x007faca4622b10
  @admission_date="April 2018",
  @adoptable=true,
  @adopted=false,
  @id=8,
  @name="Edgar",
  @type="Rat",
  @url=
   "https://thumbor.forbes.com/thumbor/960x0/https%3A%2F%2Fblogs-i
mages.forbes.com%2Fjudystone%2Ffiles%2F2018%2F02%2Fhantavirus-mous
e-cdc.jpg">]
```