Evidence for Implementation and Testing Unit

Fraser Brown - Cohort E17

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

```java
public class Bedroom extends Room {
    private int number;
    private BedroomType type;
    private double pricePerNight;
    private int numberOfNights;

    public Bedroom(int number, BedroomType type, double pricePerNight) {
        super(type.getCapacity());
        this.type = type;
        this.number = number;
        this.pricePerNight = pricePerNight;
        this.numberOfNights = 0;
    }
```

```java
public int getNumber() { return this.number; }
```

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

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

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

```java
public class Bedroom extends Room {
    private int number;
    private BedroomType type;
    private double pricePerNight;
    private int numberOfNights;

    public Bedroom(int number, BedroomType type, double pricePerNight) {
        super(type.getCapacity());
        this.type = type;
        this.number = number;
        this.pricePerNight = pricePerNight;
        this.numberOfNights = 0;
    }
```

```java
@Test
public void singleRoomHasRoomPricePerNight() {
    assertEquals( expected: 25.00, singleRoom.getPricePerNight(),  delta: 0.01);
}
```

I.T 3 - Example of searching

```ruby
top_movies = [{name: "Star Wars", rating: 5, year: "1979"},
{name: "Mean Girls", rating: 4, year: "2004"},
{name: "White Chicks", rating: 5, year: "2004"}]

def find_movie_by_year(top_movies, year)
  return top_movies.find{ |movie|
  movie[:year] == year
}
end
puts find_movie_by_year(top_movies, "1979")
```

```
➜ pda_work ruby searching.rb
{:name=>"Star Wars", :rating=>5, :year=>"1979"}
➜ pda_work
```

I.T 4 – Example of sorting

```ruby
foods = ["Burger", "Hot Dog", "Pizza", "Pasta"]

def sort
  foods.sort!
end

puts foods
```

```
➜ pda_work ruby array.rb
Burger
Hot Dog
Pizza
Pasta
```

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

```ruby
foods = ["Burger", "Hot Dog", "Pizza"]

def add_to_array(food, foods)
  foods.push(food)
end

add_to_array("Pasta", foods)

print foods
```

```
➜ pda_work ruby array.rb
["Burger", "Hot Dog", "Pizza", "Pasta"]%
```

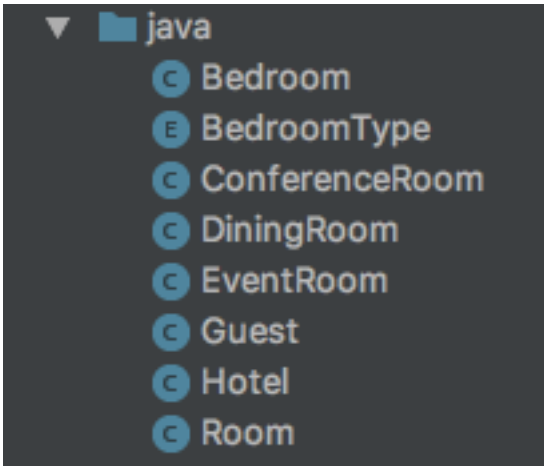
I.T 6 - Example of a hash, a function that uses a hash and the result

```ruby
foods_hash = {
  "Burger" => 1,
  "Hot Dog" => 2,
  "Pizza" => 3
}
def add_food_to_hash(foods_hash, food, rating)
  foods_hash.merge!(
    {food => rating}
  )
end

add_food_to_hash(foods_hash, "Pasta", 4)

puts foods_hash

```

```
➜ pda_work ruby hash.rb
{"Burger"=>1, "Hot Dog"=>2, "Pizza"=>3, "Pasta"=>4}
```

I.T 7 - Example of polymorphism in a program

```java
public class Hotel {
    private String name;
    private ArrayList<Bedroom> bedrooms;
    private DiningRoom  diningRoom;
    private ConferenceRoom conferenceRoom;

    public Hotel(String name) {
        this.name = name;
        bedrooms = new ArrayList<Bedroom>();
    }
```




```java
    public void addBedroom(Bedroom bedroom) {
        this.bedrooms.add(bedroom);
    }
```

```java
    hotel.addBedroom(singleRoom);
    hotel.addBedroom(doubleRoom);
```