Homework #4

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Questions

In the last Lecture we learned about Software Lifecycles and UML Use case- and Class diagrams:

Answer the following questions:

1. In a minimal Software Lifecycle there is just one activity – which one?

Questions

2. Given the following description, model the according use case diagram. Use the <<include>> and <<extend>> stereotypes if necessary.

Draw a use case diagram for a Vending Machine.

The system includes two actors:

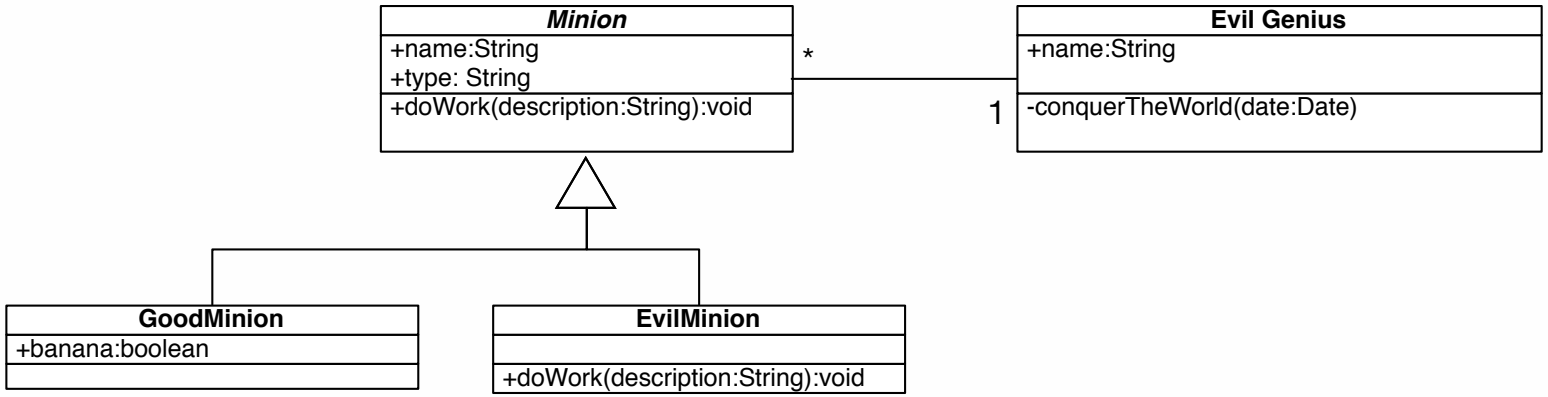
- a customer, who purchases different types of items
- an agent, which refills the Vending Machine if necessary

Use cases should include: BuyDrink, BuySweets and RefillMachine.

- Think about at least 3 exceptional Use cases which can occour
- Think about at least 2 common Use cases for BuyDrink and BuySweets

Questions

3. Map the following UML Diagram to Java Code. Make sure to create the correct signatures associations and visibility.



Questions

4. Given the following Java Code reverse engineer the corresponding class diagram (ctd. next slide)

```
public class Earth {
     Ocean ocean;
     List<Mountain> mountains;

public Earth() {

     this.ocean = new Ocean("atlantic", 82440000);
     this.mountains = new LinkedList<Mountain>();
     }

     public void addMountain()
     {
          this.mountains.add(new Mountain("Zugspitze", 2962));
     }
}
```

Questions

4. Given the following Java Code, create the corresponding class diagram

```
public class Ocean {
     String name;
     double sizeInSqkm;

     public Ocean(String name, double size_in_sqkm) {
          this.name = name;
          this.sizeInSqkm = size_in_sqkm;
     }
}


public class Mountain {
     String name;
     double heightInMeters;

public Mountain(String name, double heightInMeters) {
          this.name = name;
          this.heightInMeters = heightInMeters;
     }

}
```