Exercises 3

Task 1: Given the following textual description, draw a structural UML design model for the software website monitor.

Verbesserubgsvorschläge muss mein Diagramm überarbeiten:
- Klasse Subscription: Attribute: communicationchannel ist z.B. gemeint Emails, SMS etc
- Klasse Verbessern nicht alles in Klasse Subbscription auch in WebsiteMonitorClass auslagen, Gedanken machen, wie man die ganzen Sachen speichern soll, sein beispiel die WebsiteMonitor klasse zum spiehcern der daten
    - Man könnte die Daten der Notifikation Preference Classe z.B. in Listen speichern
    - Each class hast o do one thing and not many things

Task 2: Read Aldrich - GRASP.pdf (see CampUAS). Describe how to find the responsible class for a method. Describe how to find the responsible class for the creation of an object.

To find the responsible class for a method, we use the Information Expert principle from GRASP. This principle suggests assigning responsibility to the class that has the informationneeded to fulfill the responsibility.

Steps to Find the Responsible Class for a Method:
1. Identify the Method Responsibility: Clearly state what the method should do.
2. Determine the Required Information: Identify the information required to accomplish this responsibility.
3. Locate the Class with the Information: Find the class that has or has access to this information.
4. Assign the Method: Assign the method to this class

Example from the Lectur :
If the method is getTotal() for a sale, the class Sale is the responsible class because it knows about its SalesLineItems and can ask them for subtotals.

Finding the Responsible Class for Object Creation

To find the responsible class for creating an object, we use the Creator principle from GRASP. This principle suggests that a class should be responsible for creating an object if one or more of the following conditions apply:

1. Aggregates the Objects: Contains or manages instances of the object.
2. Contains the Objects: Logically contains instances of the object.
3. Records Instances: Keeps track of instances of the object.

4. Closely Uses the Objects: Uses instances of the object frequently.
5. Has the Initializing Data: Has the information required to initialize the object.

Steps to Find the Responsible Class for Object Creation:
1. Identify the Object to be Created: Clearly define the object that needs to be created.
2. Analyze the Relationships: Determine which class aggregates, contains, records, uses, or has the initializing data for the object.

3. Assign the Creation Responsibility: Assign the responsibility to the appropriate class.

Example from the Lectur:
The Sale class is responsible for creating SalesLineItem objects because it contains and aggregates them.