**Assignment AI**

Assignment AI proved to be very easy to use. It has a wide variety of diagrams it can generate, and the UI is very dynamic. The resulting diagram is given with mermaid notation and can be saved and/or downloaded for free. Even though it has a subscription service, the free version does a good job, better than other AI option I have tried. It also includes an option to select the different complexity levels of the diagram between Beginner, Intermediate, and Advanced.

**Prompts Used**

For both the Application Class Diagram and State Diagram the prompts used were similar, with small changes respective to their type of diagram. Both used the advanced complexity level and Diagram Topic was “Loan Application in Shop”. The Diagram Description was as follows:

The Small Loan Application System is designed to streamline the process of providing customers with small loans ranging from 500 to 15,000 EUR for purchasing products at shops affiliated with an organization. The system ensures efficient loan application and approval processes by incorporating multiple user roles and a well-structured workflow.

• Customer visits a Shop and selects a Product.

• If interested in financing, a Loan Application is created, incorporating data from the Customer, Product, Shop, and Organization, along with loan amount and period.

• The Loan Application undergoes an automatic decision process by the Organization, resulting in a Decision Status of positive or negative.

• Positive: The application can proceed to become a Contract.

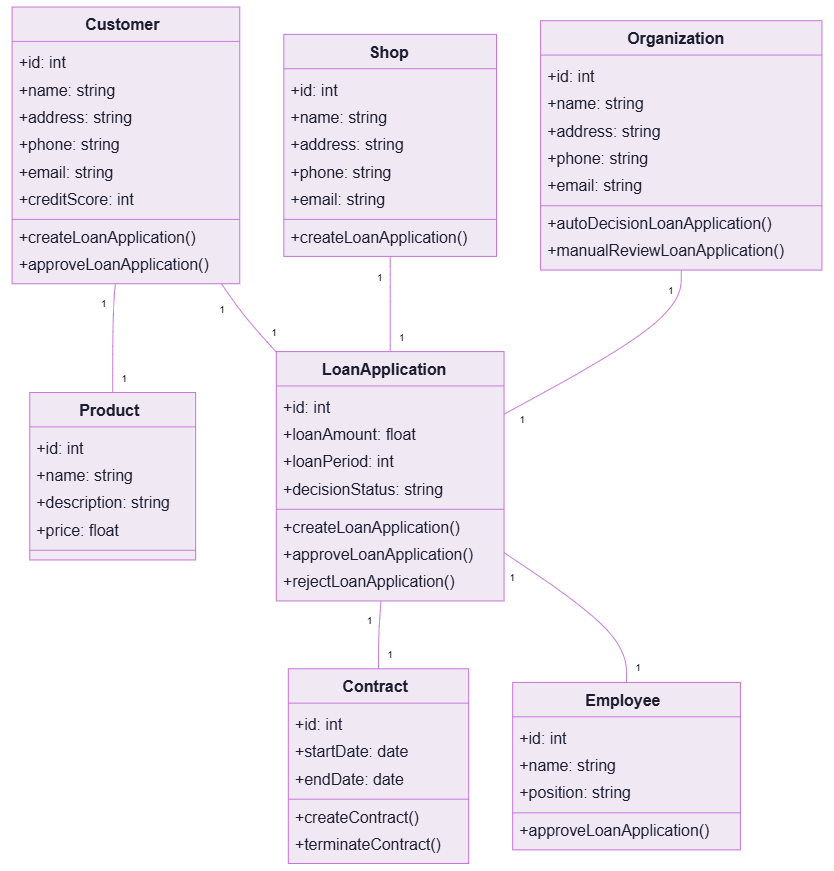
• Negative: The application is blocked from further progression. Its possible to have manual review by Employee

• For a positive decision, both the Customer and an Employee must approve (sign) the Loan Application.

• Once approved by both parties, the Loan Application transitions into a Contract.

• Contract termination is allowed after the selected period or by providing a valid reason

**Application Class Diagram**



**Comparison**

The AI model did a good job when generating the classes. It got all of them except for the General User class. The attributes inside of the AI classes are fewer, but the essential ones are there. It is missing the signature and approval attributes, but it has a a decision Status which might cover for them in a general aspect. Multiplicity was also included, but a 1-1 multiplicity was used for all of the relationships between classes. Relationship direction and description was not included either in the AI diagram.

**State Diagram**

Diagrama

Descripción generada automáticamente

**Miro**

**Justification**

I chose Miro and Miro AI for creating class and state diagrams because it is a widely used, trusted tool in businesses for collaborative and visually engaging workflows. Its intuitive interface and versatility make it an ideal platform for structuring complex systems with ease. The integration of Miro AI further enhances productivity by automating parts of the design process, providing intelligent suggestions, and ensuring a smoother workflow, especially for brainstorming and initial drafts.

**Prompt Used**

Make me a class diagram with aggregation, multiplicity, and association direction for

a Small Loan Application System is designed to streamline the process of providing customers with small loans ranging from 500 to 15,000 EUR for purchasing products at shops affiliated with an organization. The system ensures efficient loan application and approval processes by incorporating multiple user roles and a well-structured workflow.

System Workflow:

• Customer visits a Shop and selects a Product.

• If interested in financing, a Loan Application is created, incorporating data from the Customer, Product, Shop, and Organization, along with loan amount and period.

• The Loan Application undergoes an automatic decision process by the Organization, resulting in a Decision Status of positive or negative.

• Positive: The application can proceed to become a Contract.

• Negative: The application is blocked from further progression. Its possible to have manual review by Employee

• For a positive decision, both the Customer and an Employee must approve (sign) the Loan Application.

• Once approved by both parties, the Loan Application transitions into a Contract.

• Contract termination is allowed after the selected period or by providing a valid reason

Interfaz de usuario gráfica, Aplicación

Descripción generada automáticamente

**Comparison**

AI once again got almost all requested Classes. Multiplicity is also asserted and directional arrows were included, but no name. Almost all relations are composition, which in this case is incorrect since Customer, Shop, Employee and other classes are not owned by LoanApplication, and would not be deleted if the LoanApplication were to be deleted. Operations in the AI model from Miro are fewer, but they are in the correct classes. Customer is missing all of its operations

**Conclusion**

AI diagram model generators today can produce impressive rough drafts of diagrams, making them valuable tools for quickly visualizing ideas. However, they are not perfect in any area and still require significant human intervention to refine and adapt the output to specific needs. The diagrams they generate tend to be simplistic, often missing key entities, relationships, or nuances of the system. Even when provided with more detailed descriptions, these tools struggle to grasp the big picture, frequently defaulting to a straightforward approach that oversimplifies complex systems.

This task helped to refactor the description from Task #1 little bit, and this exercise demonstrated that diagrams similar to the ones we have were successfully generated from our description. While these tools are great for creating starting points, they still rely heavily on human oversight to reach the level of depth and precision required for complex systems.