التاريخ: ..... الموضوع: .....

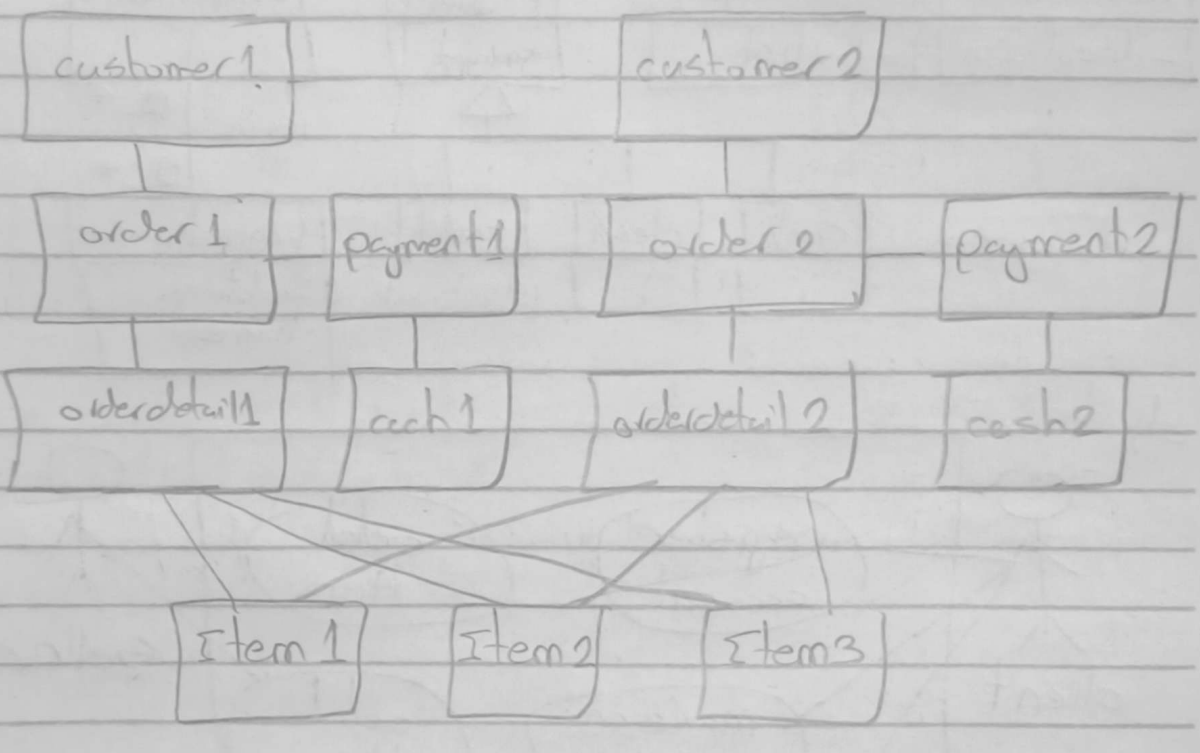
1st semester 2021/2022

Q1

a) between credit and payment, an inheritance association is the most suitable, as credit needs to inherit the attribute amount from class payment.

- between order and order detail, a composition association is the most suitable, as orderDetail instances can't exist without an order.

b)



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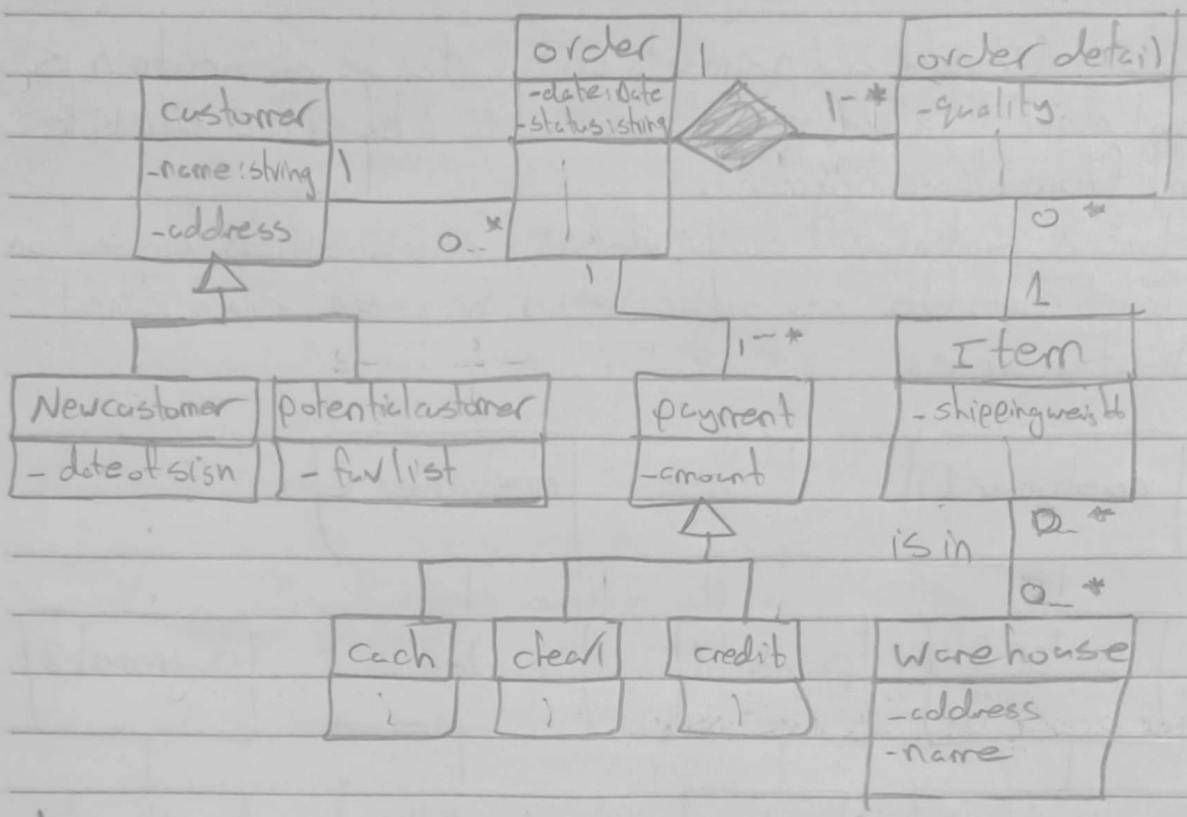
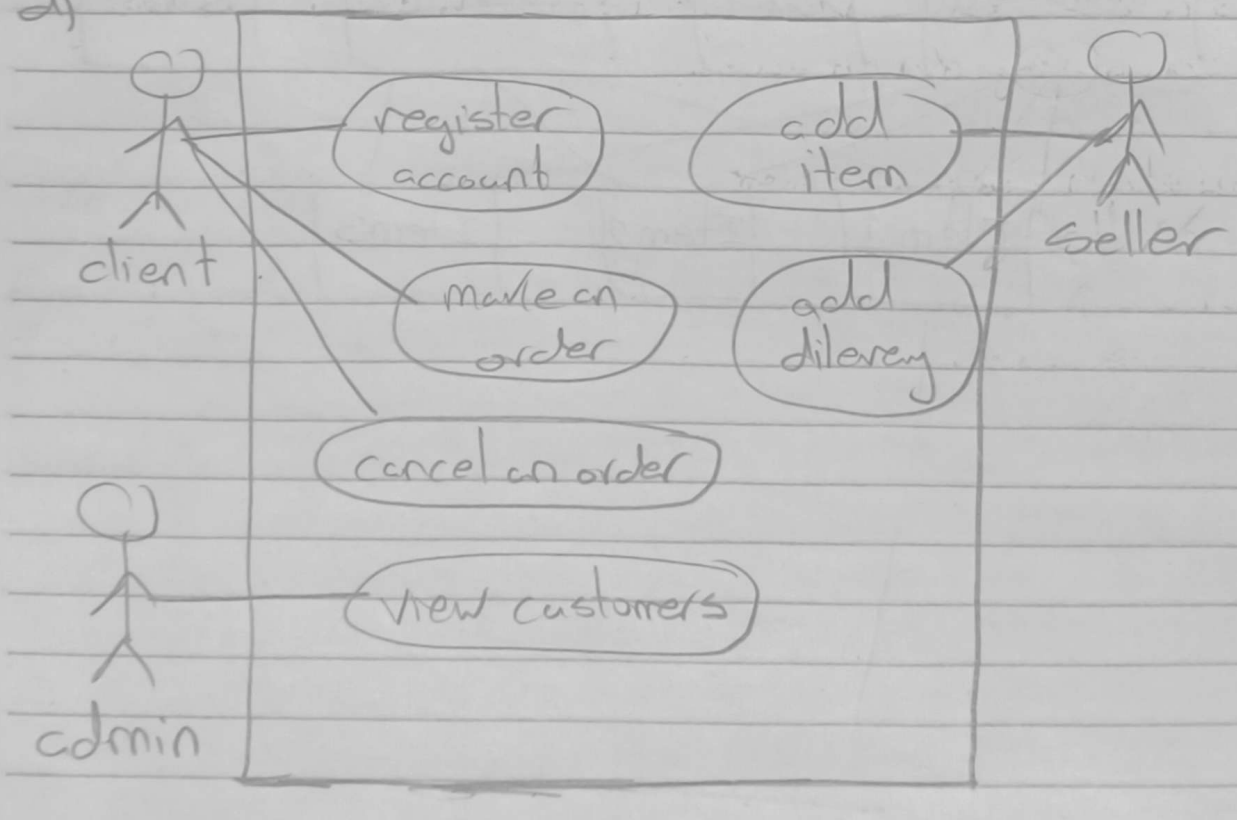
c) adding warehouse, customer categories (new, potential)



d)



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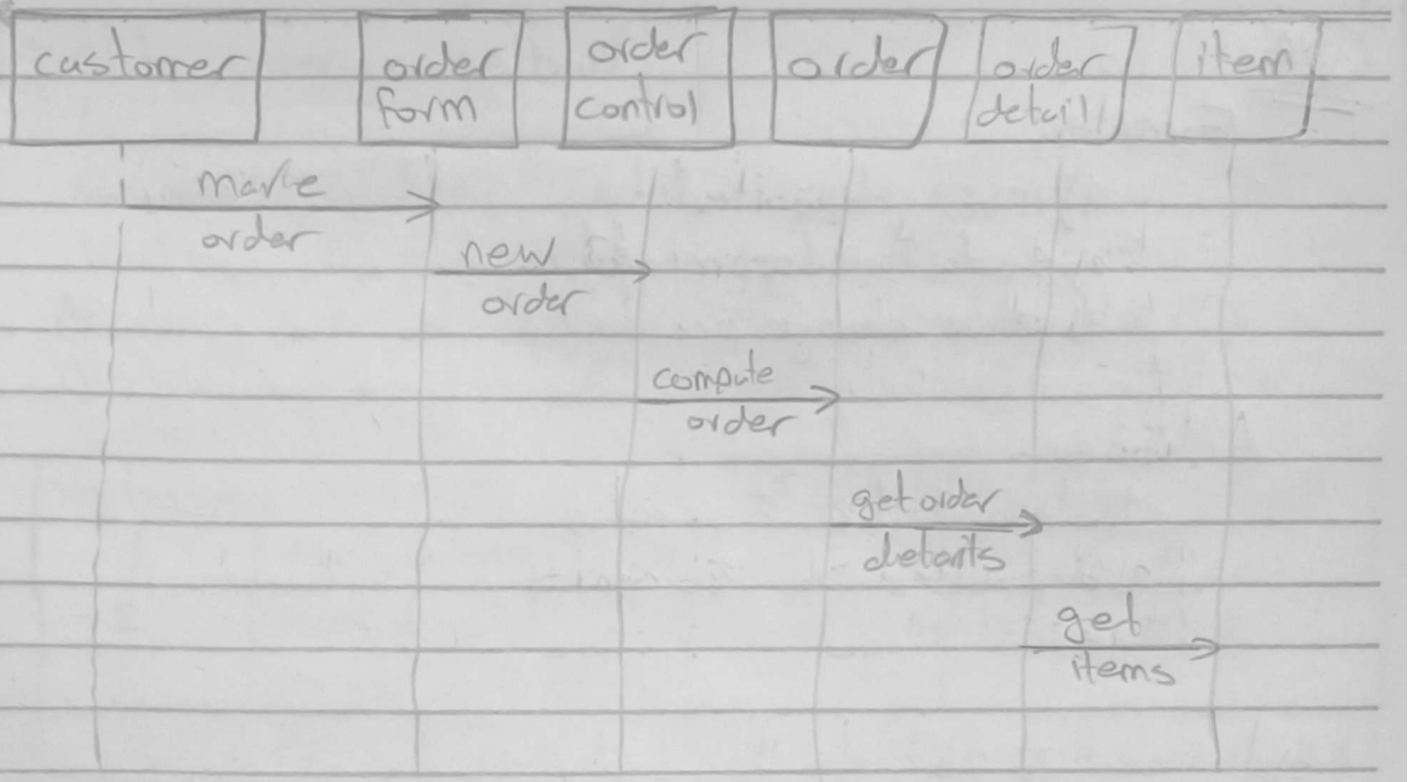
e)



f) user story for the customer

As a customer, I want to cancel my order, so that I can get my money back.

- user story for the seller

As a seller, I want to add new items, so that they are sold.

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Q2

a) Events:

1) money deposited
2) soda button pressed
3) return change pressed

Actions:

1) deposited < 50 cents
2) deposited >= 50 cents

b) to insert 3 20 cents then order soda.

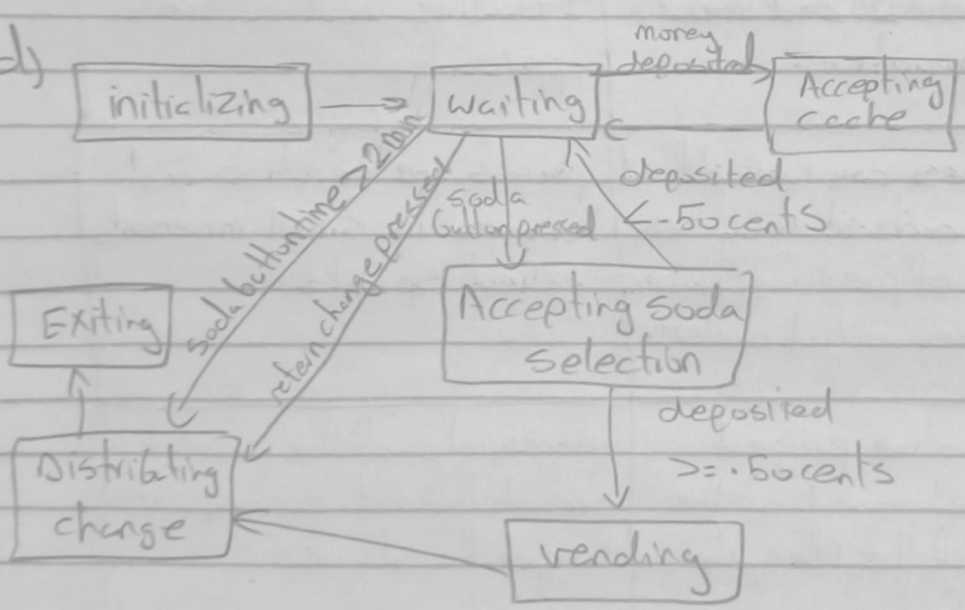
event	states changed
money deposited	Waiting → Accepting change → waiting
money deposited	waiting → Acc. change → waiting
money deposited	waiting → Acc. change → Waiting
soda button pressed	waiting → Acc. code selection → vending → distributing change → Exiting

c) State coverage method

numbering states: Initializing → ⓪
Waiting → ①, Accepting change → ②
Accepting soda selection → ③, Vending → ④
Distributing change → ⑤, Exiting → ⑥

Testcase	event list	expected output	states covered
1	money deposited	states=<0,1,2>	0,1,2
2	money deposited, soda button pressed	states=<0,1,2,1,3>	0,1,2,3
3	money deposited, soda button pressed deposited >= 50	states=<0,1,2,1,3, 4,5,6>	0,1,2,3,4,5,6

d)



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Q3

a)

Transition coverage	Event coverage
Focuses on ensuring that all possible transitions between states was done.	Focuses on ensuring that all possible events were triggered during testing
hard and take longer time	simpler than transition coverage

b)

Waterfall model	agile development model
Sequential and linear approach.	Iterative and incremental approach.
phases are well defined and each start by the end of previous phase in a sequential order	phases are iterative and happens in small increments called sprints
The entire project is delivered at the end of the lifecycle.	increments of the project are delivered each sprint to get feedback.
customers are involved only at the start and end of the lifecycle	customers are continously involved each sprint through feedback & collaboration.

c)

user interface UI	user experience
The visual elements and components of a system.	The overall experience a user has with a product.
Aims to create pleasing designs that allow users to interact effectively.	Aims to create a positive, meaningful and memorable experience for users
focuses on: visual design colours Graphic design layouts Typography	focuses on: Interaction designes wireframes Information Architect user research scenarios

d)

V model with prototype	spiral model
sequential and linear.	iterative and incremental
phases are well defined with each phase having a corresponding test phase.	phases are done one incrementally each iteration.
delivery at the end.	delivery each iteration.

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e)

Ideate	Emphasize
To think about creative ideas to achive the customer's needs using the knowledge you gained from previous stages.	To put yourself in the customer's situation emotionally where you sense his needs and capture his perspective.
The third stage of design thinking process	The first stage of the design thinking process
Done through brainstorming sessions with the team of developers.	Done through interviews with users and user surveys.