

Advanced Software Engineering

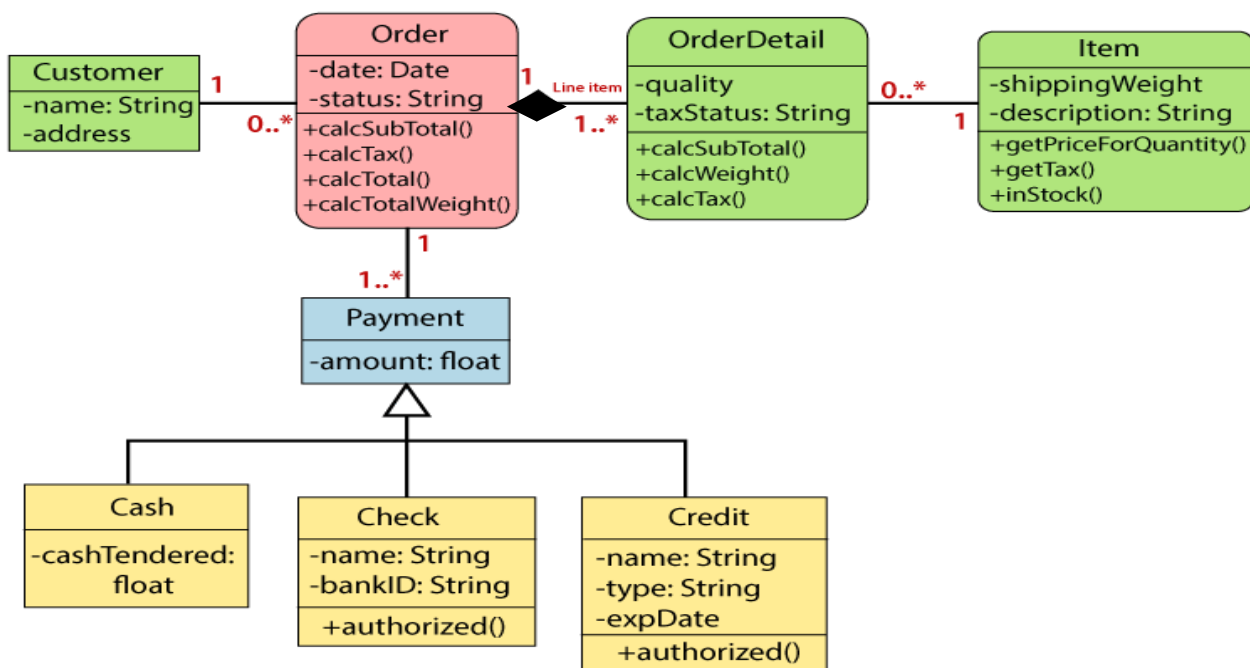
The Exam Consists of Three Questions in Two Pages.

Maximum Marks: 70 Marks

1 / 2

Question (1): [30 Marks]

The following class diagram shows a purchase order system where customers can use their credit cards, checks or cash to make orders of different items.

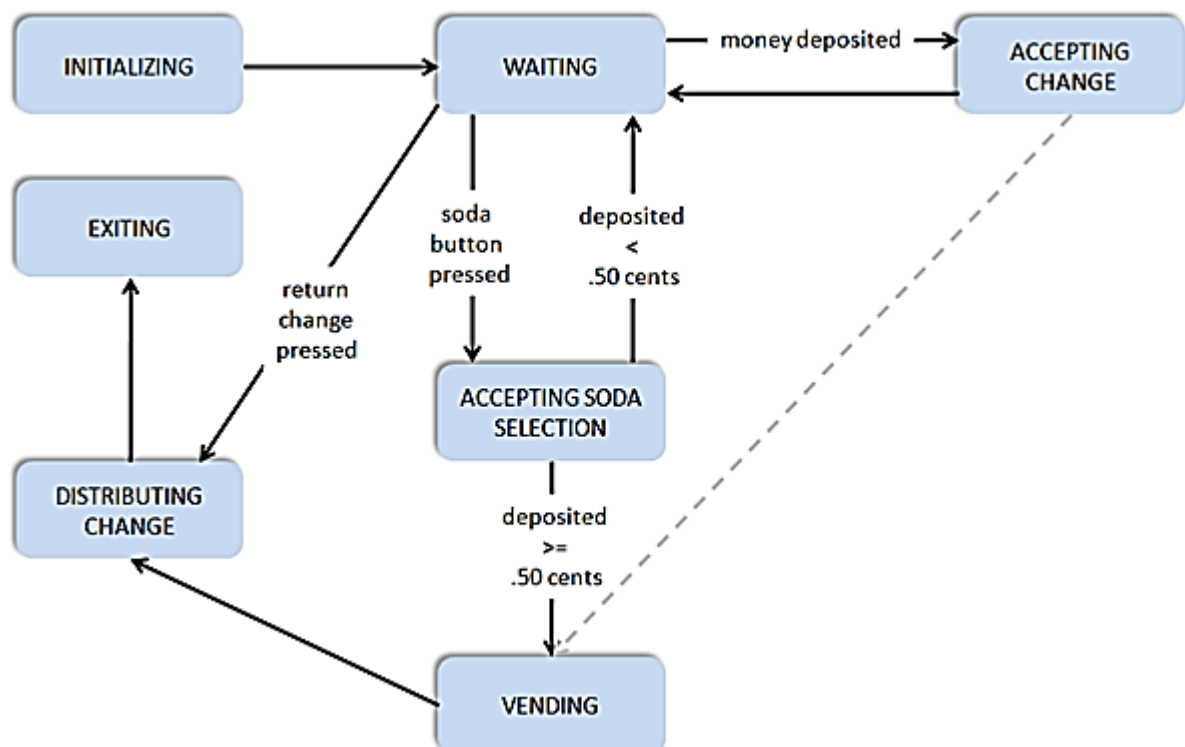


- What is the suitable association type between two classes: credit and payment , order and order detail [4 Marks]
- Draw an object diagram for two customers who have bought similar items via different orders and paid by cash [6 marks]
- If the class model is to be extended by adding warehouse/store places to keep the items there, customer categories (new, potential) update the class diagram show where to add the new classes and how to relate them to the rest of the model [6 marks]
- For the above system create a needed and reasonable use case diagram showing all possible actors and required and important use cases [6 marks]
- Show a time sequence diagram including control and boundary classes that computes the cost of a given order [4 marks]
- List two INVEST user stories one for the customer and one for the seller [4 marks]

Question (2): [20 Marks]

The following state transition diagram shows the behaviour of soda vending machine

- a) List all events and actions [5 marks]
- b) Show the list of events and resultant state sequence required to insert three 20 cents coins and then order soda [5 marks]
- c) Show how can this state transition diagram be tested using state coverage method (list needed test cases) [5 marks]
- d) Modify the diagram to return the change if the customer does not press soda button for a long period of time [5 marks]



Question (3): [20 Marks]

Explain briefly with diagrams when possible the following

- a) The transition coverage vs event coverage testing [4 marks]
- b) The waterfalls model vs agile development lifecycle models [4 marks]
- c) User Interface (UI) vs User Experience (UX) [4 Marks]
- d) The V model with prototype vs the spiral model [4 Marks]
- e) The ideate vs empathize steps in design thinking [4 Marks]

END of Exam, Good Luck

CSE608 Fall 2021
Final Exam Questions/ILO Matrix

	a1	a2	a3	a4	b1	b2	b3	c1	c2	c3	d1
Q1	•	•	•		•	•	•				
Q2	•		•		•	•	•				
Q3		•		•		•	•				