

## Sales and Scheduling Test

Please read the case study and answer the questions below.

- *Please submit only docx and vpp format. Two files only.*
- *Please note that submitted work, in any other format will not be graded.*
- *Your diagrams must be imported to the word document and must be readable with the name tags.*
- *If you don't have your name tags with*
  - o ***your name,***
  - o ***group number***
  - o ***student number***
  - o ***professor name***
  - o ***date, name of the work (inventory test create purchase diagram etc)***

*in the diagrams you will not be graded for that work. (Every diagram should have this information)*

***This test is starting from  
Tuesday 23rd of March @9am  
till  
Thursday 25th of March @11:59pm***

You are welcome to use additional tools (example Visual Paradigm) as long as you copy pictures of your work into this document. The pictures must be legible. ***Your professor will not grade any work that isn't easy to read from the word document.***

You are welcome to use outside sources in formulating your answers. Be sure to reference your work using APA format. ***Work not properly referenced will be passed to the Academic Integrity Committee for review.***

Please note that this test is divided into two parts: Sales and Scheduling. Please utilize the case study to answer the question in the Sales part of the test and your week 9 scheduling activity to answer the Scheduling part of the test.

### Part 1: Sales

#### Case Study

*Ally Cares* began offering home services to their clients in 2003. Although *Ally Movers* started as a service business to support seniors, they now provide service to anyone who needs it. Services include house cleaning, running errands, lawn care, home day care, and pet walking.

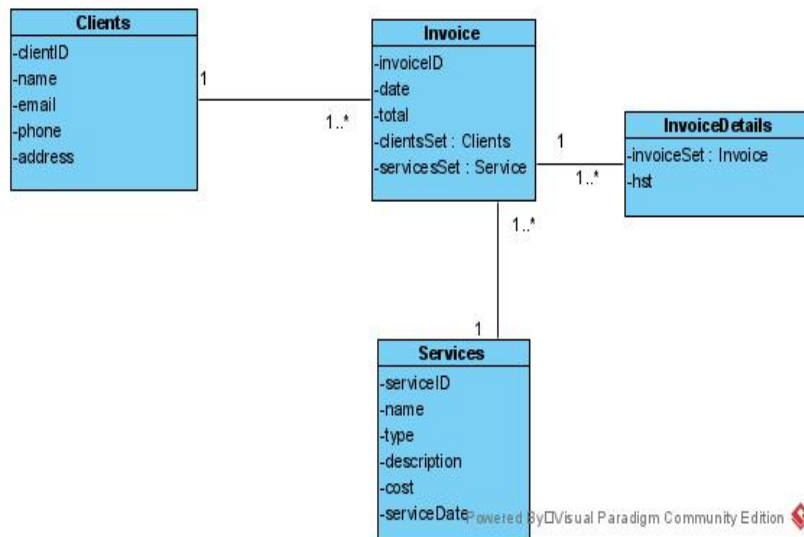
Clients are invoiced monthly and clients are expected to pay upon receipt of their invoice.

Your team leader has written the following scenario to capture some of *Ally Cares'* requirements. Please remember that an 'invoice' is a 'sale' that hasn't been paid for!

Use Case Name	Create Invoice		
Triggering Event	End of the month		
Brief Description	Allows the Business Owner to create an invoice		
Actors	Business Owner		
Related Use Cases			
Preconditions	Business Owner has opened the Main Menu.		
Post Conditions	Invoice is saved to the database and now can be printed to deliver to the client		
Flow of activities	Actor	System	
	1.	Requests to record an invoice	Displays a list of clients. Prompts for selection.
	2.	Selects a client.	Displays a list of services that were performed for the client during the date range. Calculates a unique invoice number for the invoice. Calculates the invoice date as the system date. Displays the Invoice.
	3.	Selects a service	Displays the cost/hour for that service and prompts for number of hours
	4.	Enters number of hours	Adds the invoice detail. Calculates the cost of the service as cost/hour * number of hours. Calculates the HST. Displays the Invoice detail. Updates the Invoice total. Displays the invoice total.
	5.	Repeats above 2 steps until all details are created	Prompts to print or email.
	6.	Chooses to print	Saves the invoice and details. Prints the invoice.
Exception Conditions	<ul style="list-style-type: none"> <li>Business Owner chooses to cancel adding the invoice.</li> </ul>		

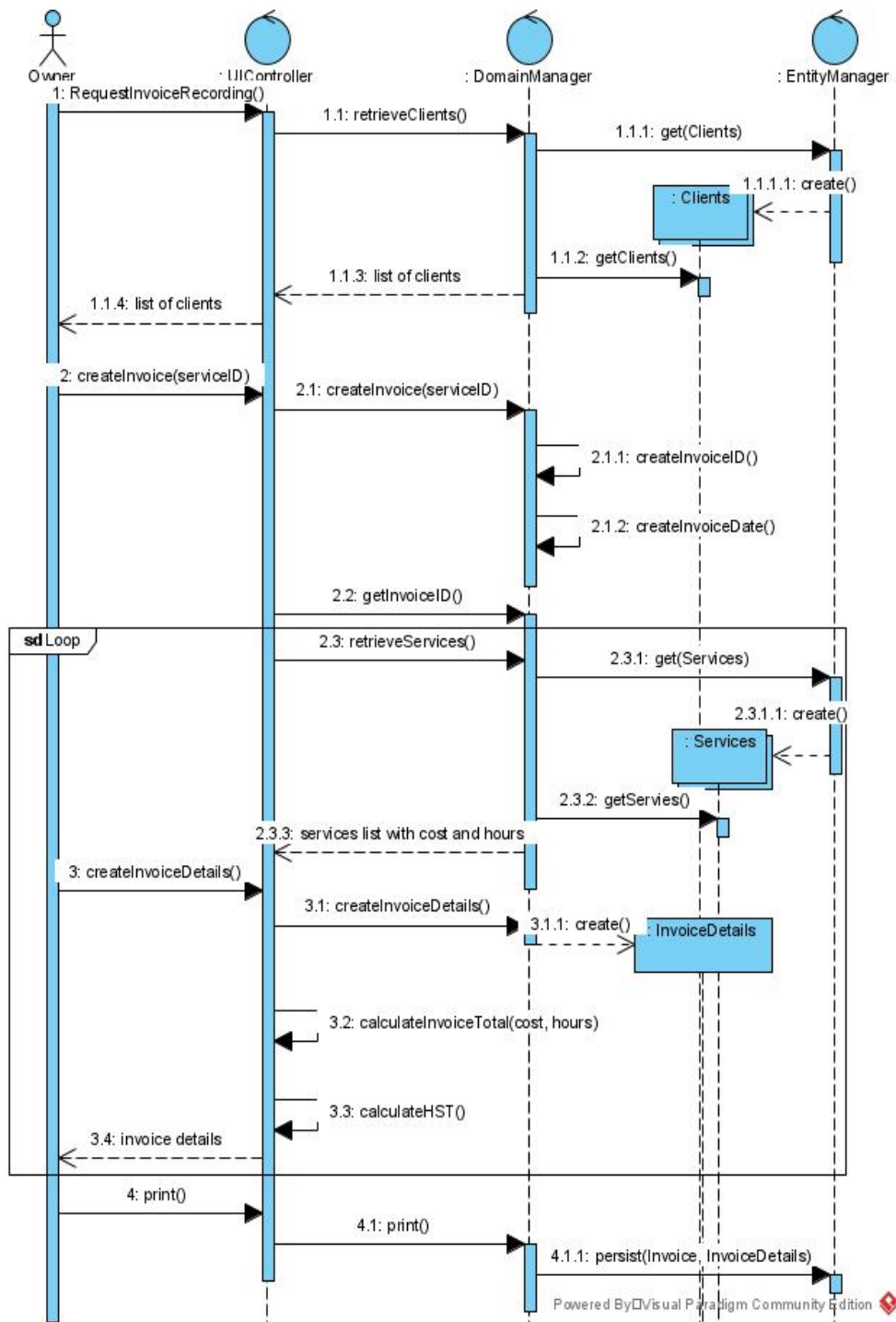
### Question 1 (worth 5 marks)

Create a class diagram that supports the scenario.



## Question 2 (worth 10 marks)

Complete sequence diagrams to support the above scenario.



### Question 3 (worth 2 marks)

The above scenario assumes that the cost/hour for a service is the same for each employee. What would happen if the cost/hour changed for each employee providing the service? How would you change your model? **Please describe in English.**

Firstly, I would create an Employee class diagram and would include an attribute called costHour and would associate it with the Services class.

I would also modify the sequence diagram so that the cost/hours can be entered for each employee and would display list of employees.

#### Question 4 (worth 2 marks)

*Ally Cares* is thinking of offering a 10% discount to their clients who recommend their services. How would you change your model to support this?

In order to give their clients a 10% discount to those who refer their services, *Ally Cares* must store their client's information in the database under their clientID. When signing up for a client account, they must include their email address. *Ally Cares* should ask new clients if they were referred, and then ask for the email of the referrer. This way the referrer would get a 10% discount on future purchases and once the purchase is made with the discount, the discount will be removed.

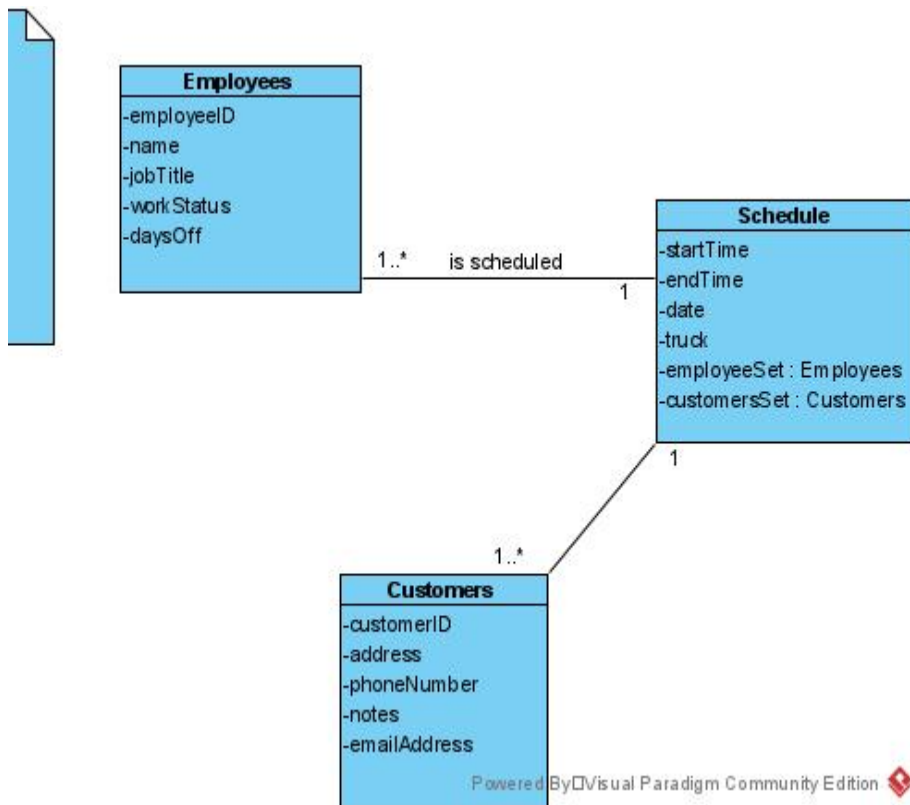
To accommodate this change in requirements, I would add a Boolean attribute to the Clients class, where it would indicate if they have referred a client to their services or not. I would also create a new class called Discounts with the attributes, discountType, discountAmount, discountDate, and clientReferrerSet: Clients, to indicate if a client is getting a discount because they referred *Ally Cares* services. Then I would add another attribute to the InvoiceDetails class called discountSet: Discounts.

## Part 2: Scheduling

You participated in a scheduling activity as part of week 9. Please use that activity as the case study for this part of the test.

#### Question 5 - Class Diagram (worth 10 marks)

Your task is to create a class diagram to support the activity and the scenario described below.



Use Case Name	Query Scheduled moves of a driver.	
Triggering Event	Driver requests their schedule	
Brief Description	Allows a Driver to request their scheduled moves for the week. The query must produce an online report displaying the drivers assigned moves, the truck that they are using, the movers assigned to the move, the start time and end time of the move, the directions and notes associated with the move.	
Actors	Driver	
Related Use Cases		
Preconditions	Driver has opened the Employee Menu	
Post Conditions	Online report is displayed to the driver.	
Flow of activities	Actor	System
	1. Requests Schedule	Uses login information to retrieve a schedule for the driver for the week.
Exception Conditions	<ul style="list-style-type: none"> <li>Driver chooses to cancel retrieving their schedule</li> </ul>	

### Question 6 - Sequence diagram (worth 5 marks)

Please complete an object level sequence diagram to support the above scenario.

