

<b>Computer Networks Lab</b>	
Date: March 19 <sup>th</sup> 2025	
<b>Course Instructor(s)</b>	
Ms. Sukhan Amir	
<b>Sessional-I Exam</b>	
<b>Total Time (Hrs):</b>	<b>1</b>
<b>Total Marks:</b>	<b>30</b>
<b>Total Questions:</b>	<b>1</b>

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Roll No	Section	Student Signature

- Make sure you upload all screenshots, even if you have errors.
- Cheating and plagiarism will result in 0 credit
- Stay calm during the exam, panic only makes things worse

Do not write below this line

**Attempt all the questions.**

**Q1: UDP Programming**  
**Online Food Ordering System**

**30 marks**

You need to create an Online Food Ordering System with two separate programs: *Restaurant (Server)* and *Customer (Client)*. The restaurant maintains a menu stored in a **menu.txt** file, keeping track of the number of portions available for each dish.

**Functionality**

The customer establishes a connection by sending the keyword "*Connect:CustomerName*", where CustomerName is any string representing the customer's name.

The server responds with "*Welcome, CustomerName! Enter 'Order' to place an order or 'Cancel' to cancel items.*"

If the customer enters anything other than "Order", "Cancel", or "Exit", the server replies "*Invalid command. Please enter 'Order', 'Cancel', or 'Exit'.*" and waits for a valid response.

If the customer enters "**Order**", the server responds with "Please enter the items you want to order, separated by commas."

The customer enters a list of food items in a single string, formatted as *"Pizza, Burger, Pasta"*.

The server parses the string, checks availability in menu.txt, and:

If a dish is available, it is added to the order, and its quantity is decreased in the restaurant's inventory.

If a dish is unavailable, the server returns *"DishName is unavailable"* for each unavailable item.

After processing all items, the server sends a message **"Ordered: Pizza, Burger | Unavailable: Pasta" summarizing the transaction.**

If the customer enters **"Cancel"**, the server responds with "Please enter the items you want to cancel, separated by commas."

The customer enters a list of dish names. The server parses the string, updates the inventory, and:

If an item was successfully canceled, the server adds it back to the stock and confirms

**"Canceled: Pizza, Burger"**.

If an item was never ordered, the server replies "Error: Pasta was not in your order" for each invalid cancellation.

The customer can exit by entering **"Exit"**, and the server will respond "Goodbye, CustomerName! Session closed." before terminating the session.

Note: Make sure you add all kinds of additional checks along with error handling prompts required in UDP programming for full credit.