NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES ISLAMABAD

OPERATING SYSTEMS Fall 2021

Project

Due Date: 11:55 AM 23th, December 2021.

Instructions

• Zero marks will be awarded to the students involved in plagiarism.
• You have to submit a single zip folder of .c/.cpp file, output, and project report in Google Classroom. Folder name should be your name and Roll No.
• In hard form you can submit project report and self-assessment form. Be prepared for viva or anything else after the submission of project.
• Each step carries equal marks.
• **NO queries will be entertained before two days of submission.**

Description:

A fast-food restaurant has a process of a Manager, Cook, Waiter, and Customer. At the start, the restaurant has one manager, cook, waiter and customer but you can create multiple Cooks and Waiters to handle more than one Customer using multithreading. When the customer will place its order you will calculate the total preparation time of all the dishes that the customer ordered and the customer will wait for that time.

Step-1: Customer will tell his name and ID to Manager and can ask him about Menu.
Step-2: The manager will give the menu to the customer.
Step-3: Customer will check menu and place order.
Step-4: The manager will receive an order and keep these orders in the sequence
Step-5: The manager will calculate the bill of the customer and add into (Daily_Sales).
Step-6: Now any available cook will get the order
Step-7: One order can have multiple dishes therefore multiple cooks can work for the preparation of one order to minimize preparation time.
Step-8: Any available waiters will get prepared food and deliver to customers one waiter can deliver one order at a time. After delivery waiter will add order amount in (Daily_Waiter_Sales).
Step-9: Customer will get his order give confirmation message and terminate.
Step-10: At the end you have to compare Daily_Waiter_Sales with Daily_Sales and print their values.

Instructions:

1. For the exact number of Customers, Cooks, and Waiters you can take input from the user.
2. A manager has a Menu of items. (Menu contains dish name, price, and preparation time)
3. The customer has customer_ID and customer_Name.
4. Use pipe for communication between Customer, Manager and wherever this is applicable.
5. In project report you can briefly justify your project implementation.

Note:

1. Program implementation should be according to the concepts that you have read so far like efficient usage of Memory, Time, and Resources otherwise marks will be deducted.
2. Each step has 10 marks, total marks of project is 100. You will get marks according to the steps you completed.