# Department of Computing

**CS 213: Advanced Programming**

**Class: BSCS 5 AB**

# Lab 2: e-Cafe

**Date: September 27th, 2017**

**Time: Thursday (10:00-12:50 & 14:00 – 16:50)**

# Instructor: Fahad Ahmed Satti

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# Lab 2: e-Cafe

## Introduction

In this open ended lab the students have to design, develop and test an e-commerce solution for a new café in Islamabad. You can get more details about the café from the description section, but since this is an open-ended lab you will be free to design the system and add any realistic assumptions. You can implement your design using any one of the allowed programming languages.

## Objectives

* Design a Customer Management System for a Café based on the given requirements.
* Add any realistic assumptions to clarify the requirements and by extension the design.
* Ensure your implementation is correct by writing Unit Tests.

## Tools/Software Requirement

* Solutions should be made using C++, Java, Python, or C#.
* You can take help from internet but remember **no plagiarism.**

**Description**

A new café in Islamabad wants to establish a niche by providing an online delivery and pick-up information system for their customers. This information system will keep record of food items (atleast 15 unique items) and will allow the user to order the item for delivery or self-pick-up. The administration wants to use the system to ensure optimal resource allocation for the kitchen staff and delivery staff. The café plans to stay open between 11:00am – 10:00pm, serving fast-food in between. The customer will start by viewing the menu (atleast 4 appetizers, 2 soups, 6 main course dishes, and 3 side dishes). The customer can select any number of items and will be able to see a bill generated for all the selected items. The customer will also provide information about the delivery address (in case of delivery) and time within the opening hours (in case of pick-up). Keep in view that the cafe has only 4 cooks who can work on one item at a time and need between 5-15 minutes preparing an item (Main course dishes take longer than appetizers). Every delivery must happen with-in 30 minutes between the cafe opening time and 10:30pm.

The cafe wants to prioritize pick-up and will always prefer preparing those order before the delivery ones but will never cancel any order.

Each student must, individually build the complete application on their own. Students must upload their solutions on LMS and GitHub to qualify for evaluation.

**Lab Task**

Develop an e-café management system for a medium sized café in Islamabad. Ensure your implementation is correct by writing Unit Tests.

While you can make any realistic assumption, make sure it does not invalidate the basic functionality, defined in the description section.

## Deliverables

* Each submission is individual with the following composition:
  + Source Code
  + Unit Tests
  + Documentation(Introduction, Approach, Design, How to Run and Analysis)
  + Link to the public repo on GitHub
* Convert your submission files into a zip folder and name it as given below, finally upload the zip folder to LMS.
  + Name – Registration No. – Section

## Grade Criteria

This lab will be graded on the following rubric: 