# Department of Computing

**SE312: Software Construction**

**Class: BESE – 5 AB**

# Lab 3b: Restaurant Reservation System

**Date: March 7th , 2017**

**Time: Wednesday (10:00 – 13:00), Wednesday (14:00 – 17:00)**

# Instructor: Fahad Ahmed Satti

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# Lab 3b: Restaurant Reservation System

## Introduction

In this open ended lab the students have to design, develop and test a Restaurant Reservation System for a medium sized urban restaurant. You can get more details about the restaurant 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 Restaurant Reservation System 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 restaurant in Islamabad wants to establish a niche by providing an online reservation system for their customers. The administration wants to use the same system to ensure optimal resource (servers, tables, time) allocation for any impromptu guests. The restaurant plans to stay open between 11:00am – 10:00pm, serving both lunch and dinner. With experienced staff members, the maximum time required to prepare a single item from the full menu (25 items with 4 appetizers, 2 soups, 12 main course dishes, 3 side dishes, and 4 deserts) is 30 mins. The staff members include 4 chef, 6 servers, and 1 manager, besides other support staff. The restaurant has the following tables available:

1. 1 extra-large table with max capacity of 12 people.
2. 3 large tables with max capacity of 6 people.
3. 8 medium tables with max capacity of 4 people.
4. 4 small tables with max capacity of 2 people.

The restaurant wants to prioritize large parties and will allow the parties booking the extra-large table to set their own preferred time-limit for booking the table, without going over restaurant opening timings. For all other tables, the restaurant allocates time; ensuring maximum bookings, while giving enough time for each party to enjoy their food.

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

**Lab Task**

Develop a restaurant reservation system for a medium sized restaurant in Islamabad. Ensure your implementation is correct by writing Unit Tests.

Once a schedule has been generated allow the staff to print a monthly schedule, listing the dates, times and the guest names for the reservations.

## 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, with minimum marks 0 and maximum marks of 24:

