

# CSE108 – Computer Programming Laboratory

## Lab #14

**Date:** Monday May 13, 2019

Handin: A student with number 20180000001 should hand in a file named 20180000001.c for this lab.

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**Part 1.** [30pts] Write a function that reads a formatted text file line by line and constructs an item for each row to pass the items into a queue. You should create the text file according to following format. There should be at least 5 lines on the text file. You should shape your items as a structure. Remember that, the function only reads the file line by line and calls the `generate_item()` function for each line to generate a course structure. After an item has been created, the function must call the `add_queue()` function to add the item to queue. The File format should be like as shown below:

CES 108, Computer Programming, Proje & KuveytTürk Lab., 160, 6.5;

The fields represents code, name, classroom, capacity and credits of a lesson. The function prototype is:

```
void fill_queue(char[15] filename, queue * course_queue)
```

**Part 2.** [25pts] Write a function that takes a line as a string to generate and return a course structure from the string data. You should split the string by considering the splitting character and fill the fields of the structure. You can do any casting if there is a need for it. You cannot use any string library. The function prototype:

```
lesson generate_course(char * line)
```

**Part 3.** [30pts] Write a function that takes an item and a queue to append the item to the queue. Remember that, the queue implementation should be done by using a dynamic array, so the add function should be coded by considering implementation of the queue. The function prototype is:

```
void add_queue(queue * lesson_queue, item new_item)
```

**Part 4.** [15pts] Write a function that takes the queue and print order as parameters to print items in the queue. The function should print the items of the queue from head to tail or reversed order. The print format should be shown as following:

Code: CSE 102

Name: Computer Programming

Class: Proje & KuveytTürk Lab.

C.city: 160

Credit: 6.5

The function prototype is:

```
void print_queue(queue lesson_queue, int direction)
```