

# FOP2 Mini Project – 2021

## Description

Your task for this mini project will be to design and develop a simple point of sale computer program for a Coffee shop. Your system should be menu driven and should build the menu from an inventory file that contains the following information.

## Inventory file format:

[menu item], [price]

This will allow the coffee shop owner to modify their coffee menu items and modify prices if they need to.

When customers enter the coffee shop they will select a coffee from the menu and the coffee shop owner will then process the customers transaction using the following steps:

1. Pick coffee item from the system menu
2. Select CASH or CARD transaction
  - a. If cash transaction then the amount tendered will be entered and a receipt will be generated on screen.
  - b. If card transaction then the card type (Visa/Master) will be selected and a receipt will be generated on screen.

The coffee shop point of sale system must keep a record of all transactions and when the coffee shop owner exits the system, all the days transactions must be written to a transaction file. The transaction file will have different entries depending on the transaction type, see format below:

## Cash Transaction format

[Date and time stamp], [Item Purchased], [Price], [Amount tendered], [Change given]

## Card Transaction format

[Date and time stamp], [Item Purchased], [Price], [Card type]

## Requirements

Your system should be designed using the Object Oriented Programming techniques covered in your lectures. The system should be easy to use and all user input should be validated to ensure the system does not crash.

## Plagiarism

This is an individual assessment and plagiarised work will not be accepted. Plagiarised work includes copying from other students (in whole or part thereof) or copying code from the Internet (in whole or part thereof). Any evidence of plagiarism will be treated very seriously and will result in a grade of zero for all parties concerned. A signed copy of the Plagiarism Declaration form must accompany your submission for this assessment.

### Deadline

Mini project deadline is **Sunday 25th of April 2021 @ midnight**. Upload link will be available on MOODLE. Please upload a single .ZIP file containing your source, inventory and transaction files along with your documentation.

### Assessment Weighting

This assessment is worth **25%** of your overall grade.

**NOTES:** All of the techniques necessary to complete the assessment will be covered in the online lectures and labs. Therefore, engagement in the online lab sessions will be necessary to complete this assessment.

Further material that will assist you in the completion of this assessment will be circulated through the MOODLE page for this module. Notification of such material will be circulated via the news forum on the MOODLE page. All queries regarding this assessment should be made through the Mini Project forum at the top of the MOODLE page for this module.

### Marking Rubric

Description	Weighting
Loading menu system from inventory file	<b>15%</b>
Menu system	<b>10%</b>
Menu functionality (purchasing coffees)	<b>10%</b>
Storing transactions (cash/card) at runtime (in memory using ArrayList)	<b>15%</b>
Writing transactions to transaction file when user exists the system	<b>15%</b>
Use of Object Oriented concepts (Classes, Objects, Inheritance)	<b>15%</b>
User Input validation	<b>10%</b>
Overall code style and quality (variable naming, indentation, comments/documentation and clarity)	<b>10%</b>

### Possible classes that could be defined in order to build the system

**Note:** this is just a suggested list of classes that could be defined and used as part of your solution.

**CafeSystem**  
**Transaction**

**MenuItem**  
**CashTransaction**

**Menu**  
**CardTransaction**

**Keyboard**  
**Date**