code.sprint MT

TASK BOOKLET
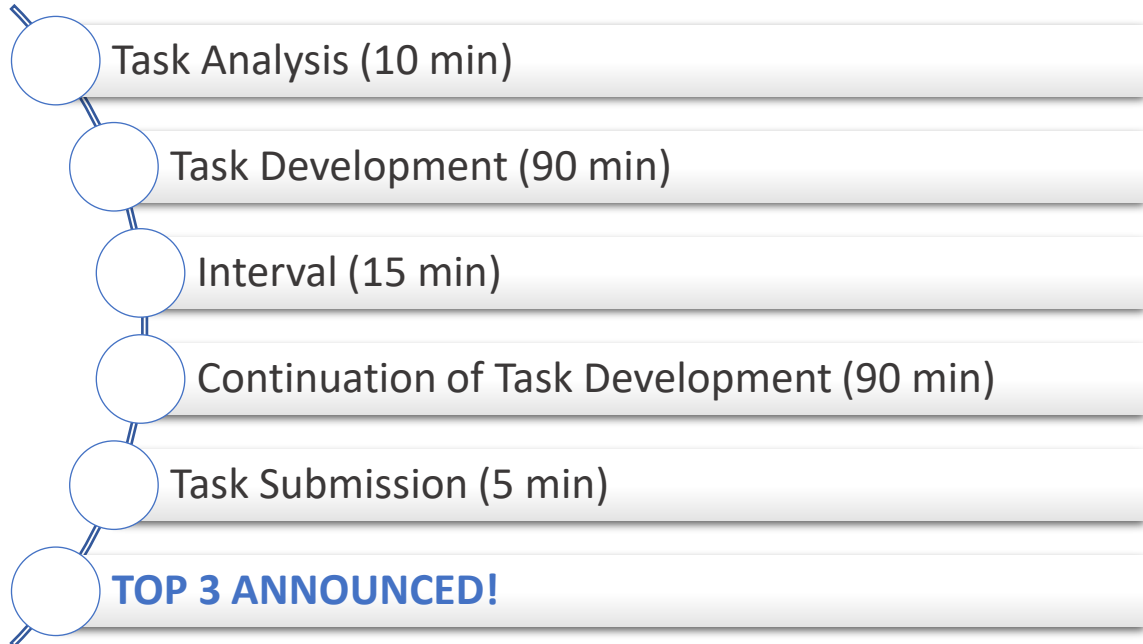
- Final Round -

Post-Sec 2020

Final Round Schedule

- Task Analysis (10 min)
- Task Development (90 min)
- Interval (15 min)
- Continuation of Task Development (90 min)
- Task Submission (5 min)
- **TOP 3 ANNOUNCED!**

Get Me Coffee App (180 minutes)

Get Me Coffee is a local coffee shop that is introducing a promotional scheme that gives clients one point for every euro they spend. Clients can then redeem ten points against one euro from their bill.

Develop a program that simulates both the POS system used by the cashier and user's APP as follows:

▪ The system has a Log-In screen as shown in table 1 below:

    o According to the username, the program opens either the cashiers' system or the users' app automatically.

    o User's input validation is required.

Log In Screen	
Option	**Description**
Log In	Users must enter the username and password to log in successfully. *(Details of the registered cashiers and clients are shown in **Table 6 and 7** respectively).*
Register Client Account	Clients can register a new account. Details required include: - id, name, surname, location, email, username and password. - email is the only optional field. - id and username must be unique.
Exit	Terminates the program.

Table 1: Log-In Screen Options

- The Cashier POS System displays the menu in table 2 below:

Get Me Coffee POS System	
Option	**Description**

Enter new transaction	Allows the cashier to:
	
	- enter the items that the client wants to buy,
	- enter client number:
	  - prompt whether to redeem available points or not,
	  - issue a receipt showing the items bought, sub-total, VAT (18%), total, total points earned and redeemed (if any).
	
	or skip the client number and issue a receipt showing the items bought, sub-total, VAT (18%) and total.
	
	*(A list of the pre-set items is shown in **Table 5**)*
	*(A sample receipt is shown in **Figure 1**)*

Issue Last Receipt	This option displays the receipt of the last transaction carried out.
View Stock List	Through this option cashiers can view, add, and modify items in stock.
View Clients	Through this option cashiers can view clients' details, and block clients' account if required.
Cashier Sign Out	Allows a logged-in cashier to enter the password to sign out and return to the Log-In Screen.

Table 2: Cashier's POS System

- If the user's account is not blocked, the Users' App displays the menu in table 3 below:

Get Me Coffee APP	
Option	**Description**
Personal Details	Allows the user to view and modify personal details, including only the name, surname, location, email and password.
View Points	This option displays the clients' current redeemable points.
View Purchase History	This option displays the clients' purchase history. Details include: Date of purchase, total price, and if any points were redeemed.
Sign Out	Allows a logged-in client to sign out and return to the Log-In Screen.

Table 3: Clients' App Menu

Program Rules:

- A cashier/client must be logged in access the system. To log in, a registered username and password must be entered in the Log-In Screen. *A proper message is displayed when the username and/or password are not correct*.

- The username **IS NOT** case sensitive, and the password **IS** case sensitive.

- If there is a transaction already recorded, the program asks the cashier whether to record another transaction or not. The new transaction will overwrite the previous one.

- While recording a transaction:

  o Name of the items bought are entered (not case sensitive):

    - a proper message should be displayed when an item is not in stock list or is out of stock;

    - The stock quantity is decremented, if applicable.

    - The subtotal is incremented.

    - the cashier must enter character **X** as an item to stop the transaction.

  o Enter client number to redeem available points or skip this part to refrain from redeeming points.

  o Issue receipt:

    - the receipt number is an 8-digit random generated number.

    - the date when the receipt was issued is shown.

    - The items bought, and their price are listed.

    - The subtotal, VAT (at 18%), total, and the amount of points redeemed (if applicable) are automatically calculated and shown on receipt.

- The 'Issue Last Receipt' menu option will not issue a receipt and displays a proper message if there are no transactions yet registered.

- The 'View Stock List' option allows the cashier to view, add, and modify items' details. The item name must be unique.

- To sign out, the cashier must enter the cashier's password. *A proper message is displayed if password in not correct.*

- The application should include the validation rules as shown in table 4, and proper messages should be displayed accordingly.

- Records should be written and read from text or object files.

Validation Rules	
Menus	The user should enter available menu options only.
Client Records	*client_num* should be an autoincrement integer value.
	id and *username* should be unique.
	name, *surname* and *location* cannot contain non-digit characters.
	points should be an integer value initialised to 0.
	state should be 'active' or 'blocked'.
Item Records	*item_name* should be unique.
	price should be a double value to 2 decimal places.
	quantity should be an integer value; value of -1 denotes that the quantity for the respective item is not applicable.

Table 4: Validation Rules

```
------------------------------
<< GET ME COFFEE >>
102, Flower Street, Filfa
******************************
Sun JAN 20 11:48:45 CET 2020
Receipt: 666432020
Cashier: Steve Aguis
******************************
Apple Pie        Eur2.25
Americano        Eur0.90
Water            Eur0.45

Subtotal:        Eur3.60
VAT:             Eur0.65
Total:           Eur4.25

******************************
Client: 0034
Points Gained: 4
Points Redeemed: 20
Points Available: 3
******************************

Payment:         Eur2.25

******************************
        FISCAL RECEIPT
          THANK YOU

---------- CUT HERE ----------
```

Figure 1: Sample Receipt.

Pre-Set Stock List		
Item_name	price (exc. VAT)	quantity
Americano	€0.90	-1
Apple Pie	€2.25	11
Cappuccino	€1.30	-1
Chocolate Gateau	€2.75	3
Espresso	€1.05	-1
Hot Chocolate	€2.50	-1
Water	€0.45	228

Table 5: Pre-Set Stock List

Name the class containing the main method **RunApp.**

Submit your program in a folder named **getCoffee_app**

Pre-Set Registered Cashiers

id	name	surname	location	email	username	password
1234567L	Johnny	Callus	Floriana	J_callus@gmail.com	callj001	Johnny.rolex!
4357986L	Rita	Buttigieg	Msida	rita.butt86@gmail.com	buttr001	Rita$PoWeR
5738291L	Steve	Aguis	Marsa	aguisteve@yahoo.com	aguis003	getCoffee.91

Table 6: Pre-set registered cashiers.

Pre-Set Registered Clients

client_num	id	name	surname	location	email	username	password	points	status
0001	0987694L	Alexia	Brincat	B'Kara	lexibrincat@gmail.com	brincatlexi	leXi.coFFee	8	Active
0002	3216579M	Randolph	Axiaq	Lija	axiaqrand@yahoo.com	kingrandolph	King!fuZZy	0	Blocked
0003	0045504L	Matthew	Cilia	Safi	matthewcilia@gmail.com	cilia.matt	coffeePLUS*	19	Active
0004	0145791M	Julianne	Borg	Mqabba	borg.jul@gmail.com	cutyjulianne	cuty%July	34	Active

Table 7: Pre-set registered clients.

Assessment Rubric

Program Functionality	User-Friendly GUI Interface (use of basic AWT, Swing or JavaFX GUI)	Proper use of Comments	Proper Conventions (Camel case, meaningful var names etc.)	Name of Folder & Class/es	User Input	Suitable Prompts / Messages displayed	Randomisation of Receipt Number.
Proper use of Data Structures	Proper use of Classes	Use of Files (Writing/Reading)	Code Efficiency (Avoid duplicate lines of code)	Arithmetic Operations			
				Stock quantity	Subtotal, VAT & Total	Points System	Autoincrement client_num
Validation				Other Features (Not listed in the task)	**Maximum Score: 38** **+ 2 for every extra feature.**		
Menus Options	Clients Records		Items Records				
0 – Not Satisfactorily | 1- Partly Satisfactorily | 2- Entirely Satisfactorily							

NOTES

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