



LaSalle College
Montréal

Final Evaluation: 40%

Course Identification

Name of programs– Codes: COMPUTER SCIENCE - PROGRAMMING (420.BP)
INFORMATION TECHNOLOGY
PROGRAMMERANALYST – LEA.3Q

Course title: **OBJECT- ORIENTED PROGRAMMING
CONCEPTS**

Course number: 420-CT2-AS

Group:

Teacher's name:

Duration: 3 periods (150 minutes)

Semester: Winter 2020

Student Identification

Name: Divyesh S. Raj Student number: 2210387

Date: 09/12/2022 Result: _____

☐ I declare that this is an original work, and that I credited all content sources of which I am not the author (online and printed, images, graphics, films, etc.), in the required quotation and citation style for this work.

Standard of the Evaluated Competencies

Statement of the evaluated competencies – Codes

Use an object-oriented development approach-00Q6

Evaluated elements of the competency

2. Model the classes
3. Produce the algorithms for the methods.
4. Create the graphic interface
5. Program the classes

Instructions

- No break is allowed during this exam. Students are not allowed to exit the examination room before half of the allotted time has passed. Once a student has exited the classroom, he/she may not re-enter (IPEL – Article 5.12.4).
- The teacher will not answer questions during the exam.
- Students must remain silent during the exam.
- It is the teacher's responsibility to identify language errors. If such errors are found, teachers may apply a penalty of up to 20% of the grade (IPEL – Article 5.7).
- Plagiarism, attempts at plagiarism or complicity in plagiarism during a summative evaluation results in a mark of zero (0). In the case of recidivism, in the same course or in another course, the student will be given a grade of '0' for the course in question. (IPEL – Article 5.16).
- Please name your exam by following this format midtermCT2yourName and save it on the desktop for copy.

Mark Breakdown

This evaluation is on 100 points, distributed as follows:

Fonctionnalités	Pondérations
Form design	15
Structure, array, and file	15
Reading file in array	10
Function :Find number	10
Function :Check Pin	5
Function :Transaction : Deposit	10
Function :Transaction: Withdraw	15
Function :Transaction: View	10
Write array to file	10
TOTAL	100

Project Lasalle College Application

Project Name : Bank ATM machine

Description

Design a Windows application with C# in the Visual Studio environment with the interface below.

frmGuichetBancaire

BANK OF MONTREAL

Client Identification

Enter your number :

Next >>

Pin Verification

Enter your pin :

Next >>

Types of Transactions

☐ Withdraw \$

☐ Deposit \$

☒ Consult \$


Next >>

Account Informations

^^ Terminer ^^

1 - Fonctionnalités

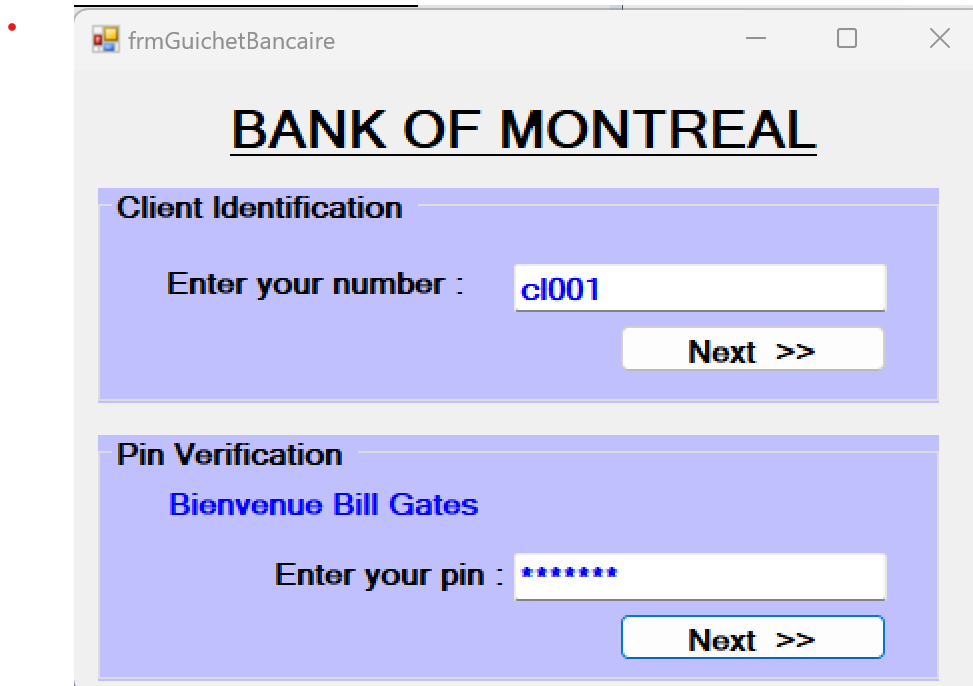
At startup : The form reads and verifies the client number in the table



The screenshot shows a Windows application window titled 'frmGuichetBancaire'. The main heading is 'BANK OF MONTREAL'. Below it, a section titled 'Client Identification' contains the text 'Enter your number :'. To the right of this text is a text input field containing the value 'cl001'. Below the input field is a button labeled 'Next >>'.

For the number's verification:

- If the number does not exist: a box message "Number not found"
- If the number exists, the form displays 'Welcome' the customer's name



The screenshot shows the same application window, but now it displays a 'Pin Verification' section. The 'Client Identification' section is still visible at the top. Below it, the 'Pin Verification' section contains the text 'Bienvenue Bill Gates' in blue. Below this is the text 'Enter your pin :'. To the right of this text is a text input field containing seven asterisks '*****'. Below the input field is a button labeled 'Next >>'.

For PIN verification:

- If the pin is incorrect: a box message "Incorrect Pin, try again"
- If the pin is correct, the choice of the transaction begins

frmGuichetBancaire

BANK OF MONTREAL

Client Identification

Enter your number :

Next >>

Pin Verification

Bienvenue Bill Gates

Enter your pin :

Next >>

Types of Transactions

☒ Withdraw \$

☐ Deposit \$

☐ Consult

Next >>

For the choice of transaction:

- The choice of Consult is selected by default,
- When Deposit or Withdraw are selected, the textbox appears
 - To Deposit (validate the amount between \$2 and \$20000 with messageBox)
 - To Withdraw: the following validations must be made (messagebox)
 - Minimum amount must be \$20
 - Maximum amount must be \$500
 - Amount must be a multiple of 20
 - Amount must be less than the balance

frmGuichetBancaire

BANK OF MONTREAL

Client Identification

Enter your number :

Next >>

Pin Verification

Bienvenue Bill Gates

Enter your pin :

Next >>

Types of Transactions

☒ Withdraw \$

☐ Deposit \$

☐ Consult

Next >>

Account Informations

ac001
Bill Gates
windows
5999600

^^ Terminer ^^

To complete the transaction:

- Update account information
- The Terminer button will update the data (by writing the table to the file)

2 – Technical considerations

The structures and data sources for this program will be:

1. **An Account (struct) structure** (Number, Client, Pin and Balance)
1. **An array** (tabAccounts) of type Account of maximum size 25
 - **A text file**(Bank.txt)

```
ac000
Steve Jobs
apple
25000
ac001
Bill Gates
windows
6000000
ac002
Ali Baba
40voleurs
300
ac003
Sophie Marceau
soso
7450
```

At the start of the program (form_Load(...)): the program will read the contents of the file, fill in the array and return the number of accounts.

During the course of the program, research and transactions are done on the current account in relation to its index found.

3 – Evaluation grid

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TOTAL	100