

Banc

Ens han contractat per a realitzar una aplicació per una sucursal bancària. Desenvolupa el programa utilitzant tots els conceptes vists a classe.

1. Especificació

Tot d'una s'iniciï el programa, l'usuari haurà de seleccionar d'entre les següents opcions quina serà l'operació que realitzarà d'entre les següents:

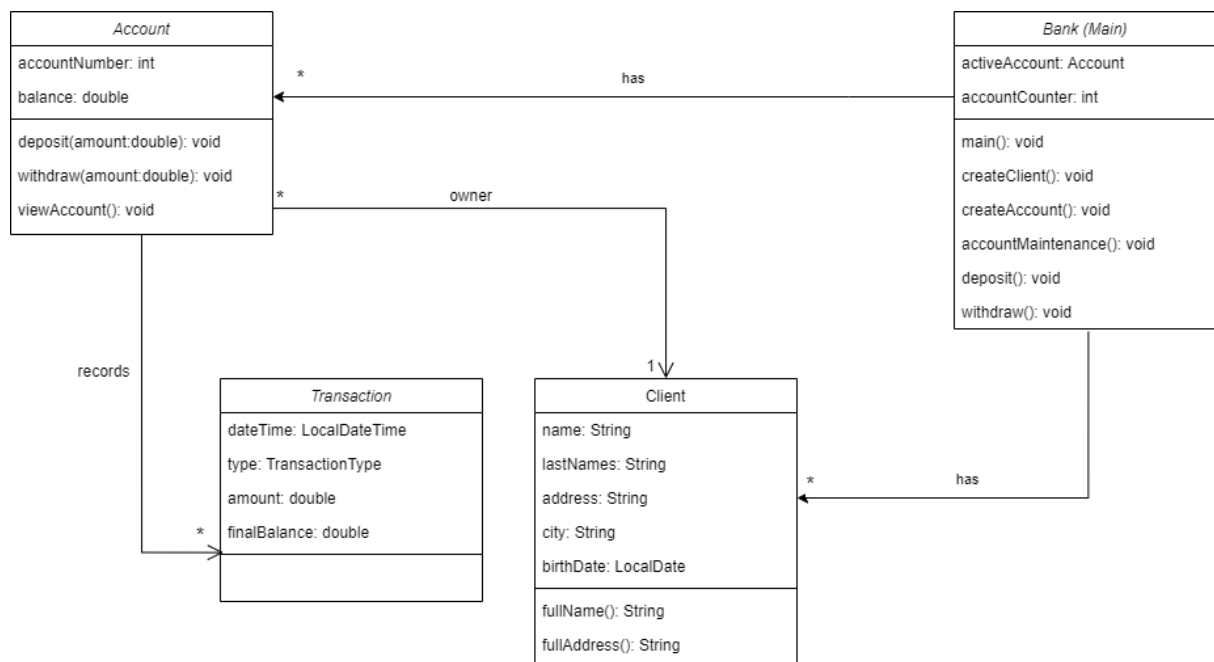
1. **Crear Client**
2. **Crear Compta**
3. **Manteniment d'una Compta**
4. **Sortir**

El programa contindrà tota la lògica necessària per gestionar que un usuari pugui fegir nous clients i comptes d'un client específic al sistema. En el cas que es seleccioni l'opció de **Manteniment d'una compta**, el programa permetrà **triar sobre quina compta es vol fer el manteniment** i mostrarà les següents opcions a realitzar sobre la compta seleccionada:

1. **Ingresar**
2. **Retirar**
3. **Veure dades de la compta**
4. **Tornar al menú principal**

2. Diagrama UML

Per això, se'ns ha proporcionat el següent diagrama de classes, a més dels següents requeriments i indicacions:



- **TransactionType** és un tipus *enumerat* que indica de quin tipus és l'operació realitzada al moviment. Els seus possibles valors són *DEPOSIT* o *WITHDRAWAL*
- **accountNumber**: cada vegada que es creï una nova compta s'assignarà un número identificatiu de manera automàtica.
- **Un compta sempre estarà vinculat a un client, que ja ha d'existir al sistema prèviament**
- **Un compta emmagatzema les transaccions que s'han anat fent al llarg del temps**
- **Investiga sobre com fer servir la classe `LocalDate` i `LocalDateTime`. Pista: els mètodes més importants són:**
 - `LocalDateTime.now()`
 - `LocalDate.parse()`
 - `LocalDate.of()`
- **Per imprimir les vores del rectangle al mostrar l'informació d'un compta, pots emprar la classe `Border` proporcionada amb l'enunciat.**

NOTA: Pots crear altres mètodes si ho necessites (es recomana per *clean code*). Els mètodes proposts són els mínims pel funcionament del programa

3. Exemple d'execució

```
MAIN MENU
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit

3
There are no accounts in the bank, you must create one first

MAIN MENU
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit

1
Client name:
Miquel
Client lastnames:
Vera Ramis
Client address:
C/ Mallorca 22
Client city:
Marratxi
Client birthday YYYY-MM-DD:
1999-08-04
Client Miquel Vera Ramis created succesfully.
```

```
MAIN MENU
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit

3
There are no accounts in the bank, you must create one first
```

```
MAIN MENU
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit
```

```
2
Client name to create an account for:
Miquel
Miquel
Account for Miquel Vera Ramis created succesfully.
```

```
MAIN MENU
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit

3
Select an account by account number:
Account [accountNumber=1, owner=Miquel Vera Ramis]
1
```

```
ACCOUNT MENU
1 - Deposit
2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu
```

```
3
┌────────────────────────────────────────────────────────────────────────────────┐
│ Account Number: 1                                                             │
│ Owner: Miquel Vera Ramis, address at C/ Mallorca 22, Marratxi                │
│ Current balance: 0.0$                                                         │
│ ----- TRANSACTIONS -----                                                 │
└────────────────────────────────────────────────────────────────────────────────┘
```

```
ACCOUNT MENU
1 - Deposit
2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu
```

```
2
Amount to withdraw:
10
```

ERROR: There's not enough balance

ACCOUNT MENU

- 1 - Deposit
- 2 - Withdrawal
- 3 - View Account Data
- 4 - Back to Main Menu

1

Amount to deposit:

5000

ACCOUNT MENU

- 1 - Deposit
- 2 - Withdrawal
- 3 - View Account Data
- 4 - Back to Main Menu

3

Account Number: 1
Owner: Miquel Vera Ramis, address at C/ Mallorca 22, Marratxi
Current balance: 5000.0\$
----- TRANSACTIONS -----
DEPOSIT [Date = 1 feb 2024, time = 22:34:05, amount = 5000.0, balance = 5000.0\$]

ACCOUNT MENU

- 1 - Deposit
- 2 - Withdrawal
- 3 - View Account Data
- 4 - Back to Main Menu

1

Amount to deposit:

1000

ACCOUNT MENU

- 1 - Deposit
- 2 - Withdrawal
- 3 - View Account Data
- 4 - Back to Main Menu

3

Account Number: 1
Owner: Miquel Vera Ramis, address at C/ Mallorca 22, Marratxi
Current balance: 6000.0\$
----- TRANSACTIONS -----
DEPOSIT [Date = 1 feb 2024, time = 22:34:05, amount = 5000.0, balance = 5000.0\$]
DEPOSIT [Date = 1 feb 2024, time = 22:34:15, amount = 1000.0, balance = 6000.0\$]

ACCOUNT MENU

- 1 - Deposit

2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu

2
Amount to withdraw:
33

ACCOUNT MENU
1 - Deposit
2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu

3

```
|| Account Number: 1 ||
|| Owner: Miquel Vera Ramis, address at C/ Mallorca 22, Marratxi ||
|| Current balance: 5967.0$ ||
|| ----- TRANSACTIONS ----- ||
|| DEPOSIT [Date = 1 feb 2024, time = 22:34:05, amount = 5000.0, balance = 5000.0$] ||
|| DEPOSIT [Date = 1 feb 2024, time = 22:34:15, amount = 1000.0, balance = 6000.0$] ||
|| WITHDRAWAL [Date = 1 feb 2024, time = 22:34:24, amount = 33.0, balance = 5967.0$] ||
```

ACCOUNT MENU
1 - Deposit
2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu

4
Back to Main Menu.

MAIN MENU
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit

1
Client name:
Noe
Client lastnames:
Abella
Client address:
C/ Filipines 20
Client city:
Palma
Client birthday YYYY-MM-DD:
2000-04-23
Client Noe Abella created succesfully.

MAIN MENU
1 - Create Client

```
2 - Create Account
3 - Account Maintenance
4 - Exit
```

2

Client name to create an account for:

Miquel

Noe

Noe

Account for Noe Abella created succesfully.

MAIN MENU

```
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit
```

3

Select an account by account number:

Account [accountNumber=1, owner=Miquel Vera Ramis]

Account [accountNumber=2, owner=Noe Abella]

2

ACCOUNT MENU

```
1 - Deposit
2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu
```

3

```
|| Account Number: 2
|| Owner: Noe Abella, address at C/ Filipines 20, Palma
|| Current balance: 0.0$
|| ----- TRANSACTIONS -----
||
```

ACCOUNT MENU

```
1 - Deposit
2 - Withdrawal
3 - View Account Data
4 - Back to Main Menu
```

4

Back to Main Menu.

MAIN MENU

```
1 - Create Client
2 - Create Account
3 - Account Maintenance
4 - Exit
```

2

Client name to create an account for:

Miquel

Noe
Miquel
Account for Miquel Vera Ramis created succesfully.

MAIN MENU

- 1 - Create Client
- 2 - Create Account
- 3 - Account Maintenance
- 4 - Exit

3

Select an account by account number:

Account [accountNumber=1, owner=Miquel Vera Ramis]

Account [accountNumber=2, owner=Noe Abella]

Account [accountNumber=3, owner=Miquel Vera Ramis]

3

ACCOUNT MENU

- 1 - Deposit
- 2 - Withdrawal
- 3 - View Account Data
- 4 - Back to Main Menu

3

Account Number: 3
Owner: Miquel Vera Ramis, address at C/ Mallorca 22, Marratxi
Current balance: 0.0\$
----- TRANSACTIONS -----

ACCOUNT MENU

- 1 - Deposit
- 2 - Withdrawal
- 3 - View Account Data
- 4 - Back to Main Menu

4

Back to Main Menu.

MAIN MENU

- 1 - Create Client
- 2 - Create Account
- 3 - Account Maintenance
- 4 - Exit

4

Exit.