



MAJOR COURSE OUTPUT #1: BANKING AND CURRENCY EXCHANGE APPLICATION

INTRODUCTION

This major course output presents the development of a Banking and Currency Exchange Application that demonstrates fundamental concepts in financial technology systems. The application is designed to facilitate core banking operations, including account creation, deposits, withdrawals, and currency exchange computations.

FUNCTIONAL SPECIFICATIONS

MANAGING EXCHANGE RATE

REQ #	DETAILS
REQ-0001	Provision to record / register the current exchange rate for the following foreign currencies: <ul style="list-style-type: none">• United States Dollar (USD)• Japanese Yen (JPY)• British Pound Sterling (GBP)• Euro (EUR)• Chinese Yuan Renminni (CNY)
REQ-0002	Provision to set Philippine Peso (PHP) as Base Currency.
REQ-0003	Provision to convert amount from one currency to another currency.



MANAGING BANK TRANSACTIONS

REQ #	DETAILS
REQ-0004	Provision to deposit money to the user's bank account.
REQ-0005	Provision to withdraw money from the user's bank account.
REQ-0006	Provision to compute the interest of the current value of user's bank account based on the computation below: <ul style="list-style-type: none">• $\text{Daily Interest} = (\text{End-of-Day Balance}) \times (\text{Annual Interest Rate} / 365)$• Annual Interest: 5% per Annum
REQ-0007	Provision to show the expected daily interest based on the inputted number of expected days. Example: <ul style="list-style-type: none">• Input: 30 Days• Expected Output: List from Day 1 to Day 30 includes the Balance and Interest Amount
REQ-0008	Provision to transact in different foreign currencies.
REQ-0009	Provision to register / input user's details.

TECHNICAL SPECIFICATION

REQ #	DETAILS
REQ-0010	Application should be develop / build on the following programming language: <ul style="list-style-type: none">• R• JavaScript• Kotlin• Rust



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OUTPUT

Main Menu

```
Select Transaction:
[1] Register Account Name
[2] Deposit Amount
[3] Withdraw Amount
[4] Currency Exchange
[5] Record Exchange Rates
[6] Show Interest Amount
```

Register Account Name

```
Register Account Name
Account Name: Dela Cruz, Juan

Back to the Main Menu (Y/N):
```

Deposit Amount

```
Deposit Amount
Account Name: Dela Cruz, Juan
Current Balance: 1000.00
Currency: PHP

Deposit Amount: 500.00
Updated Balance: 1500.00

Back to the Main Menu (Y/N):
```



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Withdraw Amount

Withdraw Amount

Account Name: Dela Cruz, Juan

Current Balance: 1000.00

Currency: PHP

Withdraw Amount: 500.00

Updated Balance: 500.00

Back to the Main Menu (Y/N):

Record Exchange rate

Record Exchange Rate

- [1] Philippine Peso (PHP)
- [2] United States Dollar (USD)
- [3] Japanese Yen (JPY)
- [4] British Pound Sterling (GBP)
- [5] Euro (EUR)
- [6] Chinese Yuan Renminni (CNY)

Select Foreign Currency: [2]

Exchange Rate: 52.00

Back to the Main Menu (Y/N):



Currency Exchange

Foreign Currency Exchange

Source Currency Option:

- [1] Philippine Peso (PHP)
- [2] United States Dollar (USD)
- [3] Japanese Yen (JPY)
- [4] British Pound Sterling (GBP)
- [5] Euro (EUR)
- [6] Chinese Yuan Renminni (CNY)

Source Currency: 2

Source Amount: 1000.00

Exchanged Currency Options:

- [1] Philippine Peso (PHP)
- [2] United States Dollar (USD)
- [3] Japanese Yen (JPY)
- [4] British Pound Sterling (GBP)
- [5] Euro (EUR)
- [6] Chinese Yuan Renminni (CNY)

Exchange Currency: 1

Exchange Amount: 52000.00

Convert another currency (Y/N)? . . .



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Show Interest Amount

Show Interest Amount

Account Name: Dela Cruz, Juan

Current Balance: 1000.00

Currency: PHP

Interest Rate: 5%

Total Number of Days: 5 days

Day	Interest	Balance
1	0.14	1000.14
2	0.14	1000.28
3	0.14	1000.42
4	0.14	1000.56
5	0.14	1000.70

Back to the Main Menu (Y/N):



EVALUATION CRITERIA

Criteria	Description	Points	Details
Code Simplicity	Measures how straightforward and minimal the code is.	5	5 pts: Code is simple and efficient. 3–4 pts: Mostly simple, with minor inefficiencies. 1–2 pts: Code has unnecessary complexity. 0 pts: Code is overly complex or unclear.
Performance	Evaluates how quickly the program executes, especially with large inputs.	5	5 pts: Excellent performance across all inputs. 3–4 pts: Minor performance issues with large inputs. 1–2 pts: Noticeable lags. 0 pts: Poor performance.
Code Readability	Assesses the clarity of the code, including formatting, variable naming, and use of comments.	5	5 pts: Clean, well-organized code. 3–4 pts: Some minor readability issues. 1–2 pts: Difficult to follow. 0 pts: Unreadable code.
Correctness	Checks if the program produces the correct outputs and handles edge cases.	3	3 pts: Correct outputs for all cases. 2 pts: Minor mistakes in edge cases. 1 pt: Frequent errors. 0 pts: Fails to provide correct output.
User Experience	Measures how intuitive and user-friendly the program is, including clear input/output and instructions.	2	2 pts: Smooth, intuitive experience. 1 pt: Somewhat confusing interface. 0 pts: Poor user experience.