**1. Student Grading System**

A university grading system needs a program that asks the student to enter their **course name** ("[1] Math", "[2] Science", "[3] English") and their **grade percentage** (0-100). Based on the course, classify the grading system. Within each course category, determine the letter grade: "A" for 90-100, "B" for 80-89, "C" for 70-79, "D" for 60-69, and "F" for below 60. The program should then display the course name along with the student’s grade classification.

Example output: Student Grading System

Select a course:

[1] Math

[2] Science

[3] English

Enter choice(1-3): 2

Enter grade percentage(0-100): 90

Course: Science

Grade: 90.0

Letter Grade: A

**2. Online Store Discounts**

An online store offers discounts based on **product categories** and **purchase amounts**. Write a program that asks the user to choose a category: "[1] Electronics", "[2] Clothing", or "[3] Food". Determine the category and within each category, check the total amount spent. If the total is above **₱1000**, apply a **20% or 0.20 discount**; if it is between **₱500 and ₱1000**, apply a **10% or 0.10 discount**; otherwise, no discount is given. The program should then display the final price after applying the discount.

Example output: Online Store Discounts

Choose a category:

[1] Electronics

[2] Clothing

[3] Food

Enter choice(1-3): 2

Enter total amount purchase: 1010

Category: Clothing

Final price: 808.0

**3. ATM with PIN Validation**

Design an ATM system where the user must first enter their **4-digit PIN**. If the PIN matches "1234", the program should proceed to a menu with the following options: 1. Withdraw Money, 2. Deposit Money, 3. Check Balance, and 4. Exit. Handle the user's menu selection with the amount given “2000”. If the PIN is incorrect, display an error message and terminate the program.

Example output: ATM with PIN Validation

Enter pin: 1234

ATM is valid

Your Balance: 2000.0

Menu

[1] Withdraw Money

[2] Deposit Money

[3] Check Balance

[4] Exit

Enter choice(1-4): 1

Withdraw Money:

Enter amount: 41

Updated Balance: 1959.0

**4. University Scholarship Eligibility**

A university offers scholarships based on the **student’s department** and **academic performance**. Write a program that asks the user to input their department ("[1] CTAS", "[2] CCIS", "[3] CCJ") and their **grade percentage.** Check if the student qualifies for a scholarship: "CCIS" requires **85% or higher**, "CTAS" requires **80% or higher**, and "CCJ" requires **75% or higher**. The program should print whether the student qualifies or not.

Example output: University Scholarship Eligibility

Choose Department

[1] CTAS

[2] CCIS

[3] CCJ

Enter choice: 2

Enter grade(1-100): 89

Department: CCIS

Grade: 89

Congratulations! You qualify for the scholarship.

**5. Transportation Fare Calculator**

A transportation company charges different rates based on the **mode of transportation** and **distance traveled**. Write a program that asks the user to select "[1] Bus", "[2] Train", or "[3] Taxi". Determine the transport type and compute the fare: "Bus" charges **₱10 for the first 5km** and **₱2 per extra km**, "Train" charges **₱15 for the first 5km** and **₱3 per extra km**, and "Taxi" has a **₱40 base fare** plus **₱5 per km** after the first 2km. Display the total fare based on the user’s input.

Example output: Select your mode of transportation:

[1] Bus

[2] Train

[3] Taxi

Enter your choice (1-3): 2

Enter the distance traveled (in km): 10

Transportation Mode: Train

Distance Traveled: 10 km

Total Fare: ₱30.0

**6. Rock, Paper, Scissors**

**Problem**: Write a program that simulates a Rock, Paper, Scissors game. The user enters either "rock", "paper", or "scissors", and the computer generates a random choice. Display the user and computer choice and determine the winner.

Example output: Rock Paper Scissor Game

[1] Rock

[2] Paper

[3] Scissor

Enter choice: 3

Your choice: Scissor

Computer choice: Scissor

Draw!

**7. Travel Agency Package Selector**

A travel agency offers different vacation packages depending on the destination and accommodation type. Create a Java program that allows users to select from three destinations: [1] Boracay, [2] Palawan, or [3] Cebu. After choosing a destination, the program should display accommodation options specific to that location. For Boracay, the options are [1] Hotel (₱5,000 per night) or [2] Resort (₱7,000 per night). For Palawan, users can choose between [1] Cottage (₱4,000 per night) or [2] Hotel (₱6,000 per night). For Cebu, the choices are [1] Hotel (₱4,500 per night) or [2] Airbnb (₱3,500 per night). The program should prompt the user to enter the number of nights they plan to stay and calculate the total cost based on their selection. Additionally, if the number of nights exceeds 5, a 10% discount should be applied to the total. Use a switch statement for selecting destinations and a nested switch for accommodation choices. Implement an if-else condition to apply the discount for longer stays. Finally, display a summary including the chosen destination, accommodation, number of nights, and total cost.

Example output: Travel Agency Package

Choose Destination

[1] Boracay

[2] Palawan

[3] Cebu

Enter choice: 1

Choose Accommodation in Boracay

[1] Hotel ($5,000 per night)

[2] Resort ($7,000 per night

Enter accommodation choice: 2

Enter number of nights: 6

You qualify for a 10% discount for staying more than 5 nights.

Destination: Boracay

Accommodation: Resort

Number of nights: 6

Total price: 37800.0

**8. Movie Ticket Price Based on Age and Movie Type**

A cinema charges different prices based on the **movie format** and the **customer's age**. Write a program that asks the user for their **age** and selects a movie type ("[1] 2D", "[2] 3D", "[3] IMAX"). Determine the movie type. Then, determine the ticket price: **Children (below 12 years old)** get a **50% or 0.50 discount**, **Seniors (60 and above)** get a **30% or 0.30 discount**, while **regular customers (12-59 years old)** pay the full price. Display the final ticket price after applying the discount.

Example output: Movie Ticket Price

Enter your age: 20

Choose the movie type:

[1] 2D (₱200)

[2] 3D (₱300)

[3] IMAX (₱500)

Enter your choice (1-3): 2

--- Ticket Summary ---

Age: 20

Movie Type: 3D

Final Ticket Price: ₱300.0

**9. Electricity Bill Calculator**

A power company calculates bills based on **household type** and **electricity consumption**. Write a program that asks the user to input their household type ("[1] Residential", "[2] Commercial", "[3] Industrial") and electricity usage in **kWh**. Determine the household type. Inside each type, compute the bill: "Residential" charges **₱5 per kWh if usage is <=100**, otherwise **₱6 per kWh**; "Commercial" charges **₱8 per kWh if usage is <=500**, otherwise **₱10 per kWh**; "Industrial" has a **flat rate of ₱12 per kWh**. Display the total bill amount.

Example output: Electricity Bill Calculator

Select Household Type:

[1] Residential

[2] Commercial

[3] Industrial

Enter your choice (1-3): 2

Enter electricity usage in kWh: 512

--- Electricity Bill Summary ---

Household Type: Commercial

Electricity Usage: 512.0 kWh

Total Bill Amount: ₱5120.00

**10. Bank Loan Approval System**

A bank evaluates loan applications based on **employment type** and **monthly income**. Write a program that asks the user for their employment status ("[1] Salaried", "[2] Self-Employed", "[3] Unemployed") and their **monthly income**. Determine the employment type. Inside each type, check if they qualify for a loan: "Salaried" employees need a minimum income of **₱30,000**, "Self-Employed" individuals need at least **₱50,000**, and "Unemployed" individuals are **not eligible**. The program should display whether the applicant qualifies for a loan or not.

Example output: Select Employment Status:

[1] Salaried

[2] Self-Employed

[3] Unemployed

Enter your choice (1-3): 3

Enter your monthly income (in ₱): 10000

--- Loan Eligibility Result ---

Employment Type: Unemployed

Monthly Income: ₱10000.0

Sorry, you are not eligible for a loan.