Exercise # 02

1. Admission Eligibility Checker

- **Problem**: Write a program that checks if a student is eligible for admission. The eligibility criteria are:
  - The student must have at least 50% in Math and Science.
  - If the Math and Science score is above 80%, they qualify for a scholarship.
- **Concepts Used**: Nested `if-else`, logical operators, relational operators.

2. Electricity Bill Calculator

- **Problem**: Write a program that calculates the electricity bill based on the units consumed:
  - Units <= 100: No charge.
  - Units between 101 and 200: 5 rupees per unit.
  - Units between 201 and 300: 8 rupees per unit.
  - Units above 300: 10 rupees per unit.
- **Concepts Used**: Nested `if-else`, arithmetic operators.

3. Blood Donation Eligibility

- **Problem**: Write a program that checks if a person is eligible to donate blood:
  - The person must be at least 18 years old and not more than 65 years old.
  - If the person is under 50 kg, they cannot donate blood even if they meet the age criteria.
- **Concepts Used**: Nested `if-else`, relational operators.

4. Income Tax Calculator

- **Problem**: Write a program that calculates income tax based on the following criteria:
  - Income up to 250,000: No tax.
  - Income from 250,001 to 500,000: 5% tax.
  - Income from 500,001 to 1,000,000: 10% tax.
  - Income above 1,000,000: 15% tax.
- **Concepts Used**: Nested `if-else`, arithmetic operations.

-

5. Bank ATM Withdrawal Eligibility

- **Problem**: Write a program that checks if a customer can withdraw a specified amount from an ATM. The conditions are:
    - The customer's account balance should be greater than or equal to the withdrawal amount.
    - If the withdrawal amount is more than 10,000, they should be asked if they have a special withdrawal permit (Y/N).
- **Concepts Used**: Nested `if-else`, logical operators.

6. Student Grade with Pass/Fail Status

- **Problem**: Write a program that takes a student's marks in three subjects. Calculate the average, and determine if they pass based on the following conditions:
    - If the average is below 50, they fail.
    - If the average is above 75, they get an "A".
    - If the average is between 50 and 75, they get a "B".
- **Concepts Used**: Nested `if-else`, relational operators.

7. Online Shopping Discount System

- **Problem**: Write a program to calculate the final amount after discount:
    - If the purchase amount is greater than 2000, check if the user is a member.
    - If they are, apply a 20% discount; otherwise, apply a 10% discount.
    - If the amount is less than 2000, apply no discount.
- **Concepts Used**: Nested `if-else`, logical operators.

8. Health Insurance Eligibility

- **Problem**: Write a program to check if a person is eligible for health insurance:
    - The person must be above 18 years.
    - If they are above 45, check if they have had any serious illness (Y/N). If "Y," they are not eligible.
- **Concepts Used**: Nested `if-else`, logical operators.

9. Day of the Week Determiner

- **Problem**: Write a program to ask for a number (1-7) and display the day of the week. If the number is outside 1-7, print "Invalid input".
- **Concepts Used**: `switch` statement, `if-else` for input validation.

10. Loan Approval System

- **Problem**: Write a program that checks a person's eligibility for a loan:
    - If their monthly income is more than 30,000, they may qualify.
    - Check if they have an existing loan. If "Yes," they should not have any overdue payments.
    - If the monthly income is less than 30,000, they are ineligible.
- **Concepts Used**: Nested `if-else`, logical operators.