1. Check Voting Eligibility
Problem: Write a program to check if a person is eligible to vote. A person can vote if they are 18 years or older and have a valid voter ID.
Example:
Input: age = 20, has_voter_id = True
Output: "Eligible to vote"

Input: age = 16, has_voter_id = True
Output: "Not eligible to vote"

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2. Password Strength Checker
Problem: Write a program to check if a password is strong. A password is considered strong if it has at least 8 characters, contains both numbers and letters, and does not contain the word 'password'.
Example:
Input: password = "StrongPass123"
Output: "Password is strong"

Input: password = "pass123"
Output: "Password is weak"

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3. Library Book Issue Check
Problem: Write a program to check if a student can issue a book from the library. A student can issue a book if they have no overdue books and their library card is valid.
Example:
Input: overdue_books = 0, library_card_valid = True
Output: "Book can be issued"

Input: overdue_books = 2, library_card_valid = True
Output: "Cannot issue book"

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4. ATM Withdrawal
Problem: Write a program to check if a person can withdraw money from an ATM. The conditions are: the person must have sufficient balance and the ATM should not be out of service.
Example:
Input: balance = 5000, atm_working = True, withdrawal_amount = 3000
Output: "Withdrawal successful"

Input: balance = 1000, atm_working = True, withdrawal_amount = 2000
Output: "Insufficient balance"

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5. Determine Leap Year
Problem: Write a program to determine if a given year is a leap year. A year is a leap year if it is divisible by 4, but not divisible by 100 unless it is also divisible by 400.
Example:
Input: year = 2020
Output: "Leap year"

Input: year = 1900

Output: "Not a leap year"

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6. Car Loan Approval
Problem: Write a program to check if a person is eligible for a car loan. A person is eligible if they have a credit score of 650 or above and a stable job (represented by job_stable = True).
Example:
Input: credit_score = 700, job_stable = True
Output: "Loan approved"

Input: credit_score = 600, job_stable = True
Output: "Loan not approved"

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7. Number Divisibility
Problem: Write a program to check if a number is divisible by both 3 and 5.
Example:
Input: number = 15
Output: "Divisible by both 3 and 5"

Input: number = 10
Output: "Not divisible by both 3 and 5"

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8. Access to Secure Area
Problem: Write a program to check if a person can access a secure area. A person can enter the secure area if they have both an access card and a security clearance.
Example:
Input: access_card = True, security_clearance = True
Output: "Access granted"

Input: access_card = True, security_clearance = False
Output: "Access denied"

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9. Discount Eligibility
Problem: Write a program to check if a customer is eligible for a discount. The customer gets a discount if they are a member or if their purchase amount exceeds $100.
Example:
Input: is_member = False, purchase_amount = 120
Output: "Discount applied"

Input: is_member = True, purchase_amount = 50
Output: "Discount applied"

Input: is_member = False, purchase_amount = 80
Output: "No discount"

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10. Class Attendance
Problem: Write a program to check if a student is allowed to take the final exam. A student is allowed if their attendance is at least 75% and they have submitted all assignments.
Example:

Input: attendance = 80, assignments_submitted = True
Output: "Allowed to take the exam"

Input: attendance = 70, assignments_submitted = True
Output: "Not allowed to take the exam"

Key Learning Points:

- These problems focus on using logical operators (and, or, not) to evaluate multiple conditions.
- Students will need to understand how different conditions are combined and evaluated to solve these programs successfully.