# Scenario Based Logics

1. **Scenario:** A system checks if a user is eligible to vote based on their age.

   Write logic to ask the user for their age and determine if they are eligible to vote based on whether they are 18 or older.

   1. Ask the user to enter their age
   2. Check whether the age is greater than or equal to 18.
   3. If yes, then print “Eligible to vote”.
   4. Otherwise, print “Not Eligible to vote”

2. **Scenario:** A program processes a list of numbers and needs to find the largest value.

   Write logic to identify and return the largest number from a given list.

   1. Read the number list
   2. Let the first number in the list be a largest number.
   3. Compare it with the other numbers in the list.
   4. If largest value is found, replace it with the current largest
   5. Iterate through the list and return the largest number.

3. **Scenario:** A company provides employees with a 10% bonus if their salary exceeds $50,000.

   Write logic to determine the bonus amount based on the given salary.

   1. Get the salary amount of an employee.
   2. Check whether the salary amount is greater than $50000.
   3. If so, Divide the salary amount value by 10 and return it as bonus amount.
   4. Otherwise, return the bonus amount as zero

4. **Scenario:** A program evaluates a number to determine if it is even or odd.

   Write logic to check whether a given number is even or odd.

   1. Get the number to be evaluated
   2. Divide the number by 2.
   3. If the reminder is 0, then print “Even number”.
   4. Otherwise, print “Odd Number”.

5. **Scenario:** A text-processing tool reverses a given word or sentence for formatting purposes.

   Write logic to take a word or sentence as input and produce its reversed version.

   1. Get the word or sentence as input from the user.
   2. Convert the sentence into list of characters.
   3. Iterate through the list in reverse order.
   4. Join the characters to get the reversed string.
   5. Return the reversed string.

6. **Scenario:** A grading system determines whether a student has passed or failed based on their score.

   Write logic to check if a student has passed a subject by scoring at least 40 marks.

   1. Get the marks from the student.
   2. If mark is greater than or equal to 40, print “Pass”.
   3. Otherwise, print “Fail”.

7. **Scenario:** A retail store offers a 20% discount if a customer’s total order exceeds $100. Write logic to calculate the final amount to be paid after applying the discount.

   1. Read the total order amount.
   2. If the amount doesn’t exceed $100, return it as final amount.
   3. If it exceeds $100, get the discount amount by dividing the total amount by 10.
   4. Deduct the discount amount from the total amount and return it as final amount.

8. **Scenario:** A banking system processes withdrawal requests and ensures the user has enough balance.

   Write logic to check if a user has enough balance before allowing a withdrawal and update the remaining balance accordingly.

   1. Read the withdrawal amount from the user.
   2. If the user account’s balance is greater than the withdrawal amount, then deduct the withdrawal amount from the account and update the current balance.
   3. If it is not greater than the withdrawal amount, then print “Insufficient balance”.

9. **Scenario:** A calendar system verifies whether a given year is a leap year based on standard leap year rules.

   Write logic to determine whether a given year is a leap year.

   1. Get a year from the user.
   2. If it is divisible by 400, then print “It’s a Leap year”.
   3. Otherwise, check if it divisible by 4 but not by 100, then print “It’s a Leap year”.
   4. Otherwise, print “It’s not a Leap year”.

10. **Scenario:** A program filters out only even numbers from a given list.

    Write logic to extract and return only the even numbers from a list.

    1. Get the list of numbers from the user.
    2. Iterate through the list to check whether the number is divisible by 2.
    3. If so, add the number to the separate list.
    4. Return the even numbers list.