Python set questions - scenario based - 1

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.

ANSWER： 1. The program ask the user to enter the age.

2.as it is number based write input as int ().

3.as age 18 or more. It print “you are eligible to vote”.

4.otherwise , it print “you are 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.**

ANSWER : 1. Write down each number [ ]

2.if any number is greater than the current number , update largest number.

3.at the end the largest will hold the biggest value.

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.

ANSWER: 1. User enter their salary.

2. if salary>50,000, bonus=10% of salary.

3. otherwise, bonus=0

4. finally it prints the bonus amount.

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.

ANSWER: 1. Get numbers as input from the user.

2. use the modulus operator % to divide the number by 2.

(if number % 2 == 0) then the number is even. Otherwise it is odd.

3.print the result.

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.

ANSWER: 1. Get a word or sentence from the user as input.

2. reverse the input string , use ([: : -1])

3. print reverse string as output.

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.**

ANSWER: 1. Take the core of the students.

2. compare the score with the passing mark(40).

. 3. If score >= 40, the student has passed. Otherwise , the student has failed.

4.print the result.

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.

ANSWER: 1. Take the total order amount as input.

2. if amount > 100 , apply yes . discount=amount * 0.20

3. if amount < 100, apply no. . final amount = amount.

4. display the final amount to be paid.

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.

ANSWER: 1. Take the **current balance** and **withdrawal amount** as input.

2. if , the amount <= balance, print yes.

3. if , no amount print error message no 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.

ANSWER: 1. Input the year.

2. if (year % 400 == 0) it is a leap year.

3. Else if (year % 100 ==), it is not a leap year.

4. Else if (year % 4 ==0), it is a leap year.

5. Other wise , it is 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.

ANSWER: 1. We define extract_even_numbers.

2. Check if the number is divisible by 2.

3. Finally, we return the list of even numbers.