### **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.

**Ans:**

1. Get age as input from user
2. Check the age is greater than or equal to 18
3. If yes print Eligible
4. Otherwise print Not Eligible

### **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.

**Ans:**

1. Using list to given the number
2. Using first value as largest then compare the second value which is greater means then assign as largest
3. Then continue compare with the next value

### **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.

**Ans:**

1. Read the salary for the employee
2. If the salary exceeds 50000 then calculate the 10% of bonus then return with bonus amount
3. Otherwise return as No Bonus for employee

### **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.

**Ans:**

1. Get the input number from user
2. Then using module operator to find if the number is modules with 2 as result is 0
3. Then return as Even
4. Otherwise return as Odd

### **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.

**Ans:**

1. Get the input text from the user
2. Convert the string to char
3. Then reverse the char using [::-1]
4. Reversed char using ‘’.join() to concatenate the char then return the value

### **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.

**Ans:**

1. Get the marks from each student
2. Check the mark if the mark is greater than equal 40 then return as Pass
3. Otherwise return as Fail
4. **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.

**Ans:**

1. Calculate the total amount of customer were purchased
2. Check the condition is the total purchase is exceeds 100 then calculate the 20% discount for the purchased

### **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.

**Ramishahope Artificial Intelligence Pvt Ltd**

**36, Old Anandas, SG Arcade, Marudhamalai Main Road, Vadavalli, Coimbatore -641041.**

**+91 6385383227 |** [**www.hopelearning.net**](http://www.hopelearning.net/) **|** [**mdaravind@hopelearning.net**](mailto:mdaravind@hopelearning.net) **| 33AAMCR3722R1ZU**

**Ans:**

1. Get the withdrawal amount from the user.
2. Then compare the balance amount which is greater than or equal to withdrawal amount then subtract with the balance amount, then store in balance variable
3. Otherwise return as Balance Insufficent

### **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.

**Ans:**

1. Read the given year
2. Check the given is module by 4 which is equal to ‘0’ then return as Leap Year
3. Otherwise return Not a leap year

### **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.

### Ans:

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1. Read the list input
2. Using for loop to get the value one by one
3. Calculate, if the number is %2 == 0 then add the number to another list
4. Finally return the result