### **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. Get the input from the user
2. Using “if” condition check the condition
3. If necessary use “elif”
4. Then “else” condition
5. Print the output

### **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. Get the input from the user
2. Using built in max() get the maximum
3. Print the result

### **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. Take salary as input
2. Check using “if” whether it is greater than $50000
3. If true salary\*0.10
4. Else:
5. Bonus = 0

### **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 the user input
2. Use “if” to check whether the number divisible by 2 with remainder 0
3. If true print even
4. Else:
5. Print odd

**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.

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**Answer**:

1. Get the user input
2. Using the slicing function reverse the input by input[::-1] print result

### **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 input from the user
2. Check using “if”
3. If the grade is 40 and 40 above
4. Print passed
5. Else
6. Print failed
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 order as input

2.Check using “if” whether it is greater than $100

3.If true order\*0.20

4.Sub the result from the input

4.Else:

5.print(input)

### **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.

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Answer:

1. **Take balance and withdrawal amount as input**
2. **if withdrawal\_amount <= balance:**
3. **balance = balance - withdrawal\_amount**
4. **Output updated balance**
5. Else:
6. Output “Insufficient amiunt”

### **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. Get the user input year
2. Check the condition using if
3. The input %4==0 and input%100!=0 or input%400==0
4. While true
5. Print leap
6. Else print 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. Get the list input
2. Iterate the list using for
3. Check using “if” input divide by 2 == 0
4. If true print the number in the list

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