### **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.

Create a function that has age as parameter to calculate the user is eligible to vote or not.

Inside the function validate:

If the parameter age >= 18 then print “Eligible to vote”.

Else print “Not Eligible to vote”.

Get the user input age covert to Integer in variable using Input function, call the above created function and pass this age as an argument.

### **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.

Assign the list to the variable.

Apply list sort() function to that variable.

Get the variable[-1] position value to get the largest 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.

Get the Input Salary, convert that to Integer and assign it to variable.

If Salary > 50000 then

Calculate bonus by multiplying Salary \* 0.1

Print the bonus

### **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.

Get the Input number, convert that to Integer and assign it to variable.

Check the following condition.

If number%2 == 0 then print “Even Number”

Else print “Odd Number”

### **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.

Get the Input sentence and assign it to variable strInput.

Assign the following into the reverse string variable strInput[::-1].

Print the reverse string variable

### **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.

Get the Input score, convert that to Integer and assign it to variable.

Check the following condition.

If score>40 and score<=100 then print “Pass” else print ‘Fail”

1. **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.

Get the TotalOrder, convert that to Integer and assign it to variable.

Create a new variable FinalPay and assign the TotalOrder to that variable

Check the following condition.

If TotalOrder >100 then

Discount = TotalOrder \* 0.2

FinalPay = TotalOrder – Discount

Print the FinalPay

### **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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Get the WithdrawAmount, convert that to Float and assign it to variable.

Create a new variable AvailableBalance and assign some bank balance value.

Create a new variable RemainingBalance and assign the AvailableBalance value to this.

Check the following condition.

If AvailableBalance > WithdrawAmount then

RemainingBalance = AvailableBalance - WithdrawAmount

Else

Print “Withdraw amount should less than the available balance”

Print the RemainingBalance value.

### **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.

Get the input Year, convert that to Integer and assign it to variable.

Check the following condition:

If ((Year%4==0) and (Year%100!=0)) or (Year%400==0) then print “Leap Year”

Else print “Not 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.

Get the InputList and assign it to variable InpList.

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By using lamda and filter do the following to get the even numbers

OutList = list(filter(lambda x:x%2==0, InputList))

print the OutList