Python Coding Exam – Conditional Statements

1. User Login Access Validation

Description

A login system validates a user based on account status, login attempts, and password correctness.

Conditions

- If user is not active → User Inactive
- Else if attempts ≥ 3 → Account Locked
- Else if password is incorrect → Invalid Password
- Else → Login Successful

Input Format

is_active (bool)
password_correct (bool)
attempts (int)

Output Format

<Login Status Message>

Expected Test Case

Input

True
True
1

Output

Login Successful

2. E-Commerce Discount Eligibility

Description

An online store provides discounts based on purchase amount and membership type.

Conditions

- Amount ≥ 10000 and premium → 30%
- Amount ≥ 10000 → 20%
- Amount ≥ 5000 → 10%
- Otherwise → 0%

Input Format

amount (int)
is_premium (bool)

Output Format

Discount: <percentage>%

Expected Test Case

Input

12000
False

Output

Discount: 20%

3. Banking Withdrawal Authorization

Description

Withdrawal is permitted only when account conditions are satisfied.

Conditions

- If account inactive → Account Inactive
- If withdraw amount > daily limit → Daily Limit Exceeded
- If withdraw amount > balance → Insufficient Balance

- Else → Withdrawal Successful

Input Format

account_active (bool)
balance (float)
withdraw_amount (float)
daily_limit (float)

Output Format

<Withdrawal Status>

Expected Test Case

Input

True
5000
3000
4000

Output

Withdrawal Successful

4. Employee Bonus Calculation

Description

Company calculates bonus based on experience and rating.

Conditions

- Experience ≥ 5 and rating ≥ 4 → 20%
- Experience ≥ 3 → 15%
- Experience ≥ 1 → 10%
- Else → 0%

Input Format

experience (int)
rating (int)

Output Format

Bonus: <percentage>%

Expected Test Case

Input

4
3

Output

Bonus: 15%

5. Traffic Signal Controller

Description

Displays traffic action based on signal color.

Conditions

- Red → Stop
- Yellow → Ready
- Green → Go
- Otherwise → Invalid Signal

Input Format

signal (str)

Output Format

<Action>

Expected Test Case

Input

Green

Output

Go

6. Online Exam Result Processing

Description

Exam results are categorized using marks.

Conditions

- ≥ 90 → Distinction
- ≥ 75 → First Class
- ≥ 60 → Second Class
- ≥ 40 → Pass
- Else → Fail

Input Format

marks (int)

Output Format

<Result>

Expected Test Case

Input

78

Output

First Class

7. Loan Approval System

Description

Loan approval depends on age, salary, and credit score.

Conditions

- Age < 21 → Reject (Age)
- Salary < 25000 → Reject (Salary)
- Credit score < 650 → Reject (Credit)
- Else → Approved

Input Format

age (int)
salary (int)
credit_score (int)

Output Format

Loan Approved / Loan Rejected: <Reason>

Expected Test Case

Input

25
30000
700

Output

Loan Approved

8. Movie Ticket Pricing

Description

Ticket price varies by age and weekend.

Conditions

- Age < 12 → ₹100
- Age 12–60 → ₹200
- Age > 60 → ₹150
- Weekend → +₹50

Input Format

age (int)
is_weekend (bool)

Output Format

Ticket Price: <amount>

Expected Test Case

Input

30
True

Output

Ticket Price: 250

9. Password Strength Validator

Description

Validates password strength.

Conditions

- Length ≥ 8 and contains digit → Strong
- Length ≥ 6 → Medium
- Else → Weak

Input Format

password (str)

Output Format

Password Strength: <Level>

Expected Test Case

Input

pass1234

Output

Password Strength: Strong

10. Smart Home Temperature Control

Description

Controls appliances based on temperature.

Conditions

- 30 → AC
- 20–30 → Normal
- < 20 → Heater

Input Format

temperature (float)

Output Format

<Action>

Expected Test Case

Input

Output

Turn ON Heater

11. Cab Fare Estimator

Description

Calculates fare using distance slabs.

Conditions

- ≤ 5 km → ₹50
- 6–15 km → ₹10/km
    - 15 km → ₹8/km

Input Format

distance (float)

Output Format

Total Fare: <amount>

Expected Test Case

Input

12

Output

Total Fare: 120

12. Student Attendance Eligibility

Description

Exam eligibility based on attendance.

Conditions

- ≥ 75 → Eligible
- 60–74 → Medical Review
- < 60 → Not Eligible

Input Format

attendance (int)

Output Format

<Status>

Expected Test Case

Input

65

Output

Medical Review Required

13. Server Load Monitoring

Description

Monitors server load.

Conditions

- < 50 → Low
- 50–80 → Medium
    - 80 → High Alert

Input Format

load_percentage (int)

Output Format

<Load Status>

Expected Test Case

Input

85

Output

High Load Alert

14. Online Order Status System

Description

Displays order status using code.

Conditions

- P → Processing
- S → Shipped
- D → Delivered
- C → Cancelled

Input Format

status_code (char)

Output Format

<Order Status>

Expected Test Case

Input

D

Output

Delivered

15. Salary Tax Slab Calculation

Description

Determines tax rate based on salary.

Conditions

- ≤ 3L → 0%
- ≤ 6L → 5%
- ≤ 10L → 10%
    - 10L → 20%

Input Format

annual_salary (int)

Output Format

Tax Rate: <percentage>%

Expected Test Case

Input

750000

Output

Tax Rate: 10%

16. Mobile Recharge Validity Checker

Description

Shows validity based on plan type.

Conditions

- Daily → 1 day
- Weekly → 7 days
- Monthly → 30 days

Input Format

plan_type (str)

Output Format

Validity: <days> days

Expected Test Case

Input

Monthly

Output

Validity: 30 days

17. Hotel Room Allocation

Description

Allocates room if all conditions are satisfied.

Conditions

- ID proof AND payment AND room availability → Allocated
- Else → Not Allocated

Input Format

id_proof (bool)
payment_done (bool)
room_available (bool)

Output Format

<Allocation Status>

Expected Test Case

Input

True
True
False

Output

Room Not Allocated

18. Online Shopping Return Policy

Description

Validates product return eligibility.

Conditions

- ≤ 7 days AND unused AND bill available → Accepted
- Else → Rejected

Input Format

days_since_purchase (int)
unused (bool)
bill_available (bool)

Output Format

<Return Status>

Expected Test Case

Input

5
True

True

Output

Return Accepted

19. Electricity Bill Calculation

Description

Calculates bill using slab rates.

Conditions

- ≤ 100 → ₹2/unit
- ≤ 300 → ₹3/unit
    - 300 → ₹5/unit

Input Format

units (int)

Output Format

Total Bill: <amount>

Expected Test Case

Input

350

Output

Total Bill: 1450

20. Company Promotion Eligibility

Description

Checks promotion eligibility.

Conditions

- Experience ≥ 3 AND rating ≥ 4 AND no disciplinary action → Approved
- Else → Denied

Input Format

experience (int)
rating (int)
disciplinary_action (bool)

Output Format

<Promotion Status>

Expected Test Case

Input

5
4
False

Output

Promotion Approved