



Instructions: No answer bank: write or fix the Lua code. Number the steps in order, answer the case study questions, explain the key terms, then write full-sentence answers and plan the extended answer.

1. Code puzzles

Question	Working and answer
lives = 0. Is lives > 0 true or false?	
Write: if coins == 5 then print "Shop open".	
Fix it: if score = 10 then	
What prints? x=7 if x<5 then print("A") else print("B") end	
Which word checks a second condition?	

Did you know?

- The words true and false are called Booleans, after mathematician George Boole.
- ~= means 'not equal' in Lua.
- Conditions can be joined with and / or.
- Every enemy in a game uses ifs to decide where to move.

Background

Programs can make choices. " If it is raining, then take an umbrella." The part after if is a condition : a question with a yes or no answer, true or false. If the answer is yes, the code inside runs. If it is no, the code is skipped.

2. Steps in order

Number the steps 1 to 5 (1 = first).

1	Yes: Decide what happens if it is true
2	Test both: Try a yes case and a no case
3	No: Decide what happens if it is false
4	Question: Write the yes or no question
5	Code: Use if, else or elseif

4. Key terms

Key term	What does it mean? Give an example.
Condition	
True	
False	
If	
Else	

3. Case study

Tayo writes if score = 10 then print("Level up") end. Studio underlines the line in red and the script will not run.

Case study: the red underline

1. What is wrong?

2. Write the fixed line.

3. Would >= 10 be better? Why?

5. Think it through

1. Explain how elseif helps with a traffic light.

2. Explain why tests should include the edge case score == 10.

6. Longer answers (full sentences)

1. Write an if / elseif / else for a grade: 8+ gold, 5+ silver, else bronze.

2. What is a Boolean?

3. Give two real machines that use conditions.

4. Explain in your own words: What is the difference between = and == in Lua?

7. Extended answer

Extended answer: 'Choices are what make a program feel smart.' How far do you agree?

Plan: introduction · point for (example) · point against (example) · conclusion with your judgement.
