

2.3 if Statements

Name: _____ Class: _____ Date: _____

Total: 8 marks

KEY WORDS if statement 条件语句 • flow of control 控制流

Objective

Build the skills to answer exam questions on **if statements**.

You must be able to:

- write an **if statement** 条件语句 that runs code only when a condition is **true**
- add an **else** clause for when the condition is **false**
- understand how a conditional changes the **flow of control** 控制流

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ if and else

```
if (score >= 60) {  
    System.out.println("pass");  
} else {  
    System.out.println("fail");  
}
```

The if block runs only when the condition is **true**; the **else** block runs when it is **false**.

■ Flow of control

A conditional changes **which statements run**, letting the program make decisions.

2 Practice

2.1 State what an if statement does.

[1]

2.2 State what an else clause does.

[1]

2.3 For `if (n > 0) print "positive"; else print "not positive";`, state the output when `n` is `-3`. [1]

3 Exam-style questions

3.1 An `if` statement runs its block when the condition is [1]

- **A** `false`
 - **B** `true`
 - **C** `null`
 - **D** `0`
-

3.2 An `else` clause runs when the condition is [1]

- **A** `true`
 - **B** `false`
 - **C** missing
 - **D** positive
-

3.3 `if (t >= 100) print "boiling"; else print "not boiling";`.

(a) State the output when `t` is 100. [1]

(b) State the output when `t` is 50. [1]

(c) Name what an `if` statement changes. [1]

Solutions

2.1 it runs a block of code only when its condition is `true`.

2.2 it runs alternative code when the condition is `false`.

2.3 not positive.

3.1 B.

3.2 B.

3.3 (a) boiling. (b) not boiling. (c) the flow of control.