

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.