

8 The three structures – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)
sequence	顺序	_____
selection	选择	_____
iteration	迭代	_____
counter	计数器	_____
total	累加	_____

Recall

Programs are built from just three basic structures.

New ideas

Read these first, then do the Practice.

■ 1 The three structures

sequence



selection



iteration



- **sequence** 顺序—steps run one after another;

- **selection** 选择—a choice with IF (yes/no);
- **iteration** 迭代—a loop that repeats steps.

■ 2 Counting and totalling

Inside a loop, a program often uses a **counter** 计数器 or builds a **total** 累加:

<code>count = count + 1</code>	count up by 1
<code>total = total + value</code>	add to a running total

Watch out: every program is built from three structures —**sequence** (in order), **selection** (a choice, IF), **iteration** (a loop). A **counter** (`count = count + 1`) counts how many; a **total** (`total = total + value`) builds a running sum.

Practice

Try these in order.

8.6 Name the three basic programming structures. [3]

8.7 Which structure makes a choice? [1]

8.8 Which structure repeats steps? [1]

8.9 What does `count = count + 1` do? [1]

8.10 Inside a loop, what does `total = total + value` do? [1]

8.11 **Challenge.** A program sets `total = 0`, then for each of the numbers 5, 3, 2 it

runs `total = total + value`. What does `total` hold at the end? [2]