

Exercise walk-through

Introduction to Using Data Sets ■ 4.2

eXercise

You must be able to

- understand that a **data set** 数据集 is a collection of related values processed together
- explain why a **collection** 集合 is more convenient than many separate variables
- describe common operations: storing, reading, and summarizing values

Method — Data sets and collections

A **data set** is a collection of related values handled together. A **collection** (such as an array) is far more convenient than many separate variables — one loop can process all the values.

Method — Common operations

Store values, **read** them back, and **summarize** them (sum, average, maximum, count).

Practice 2.1 ■ 1 mark

Define a data set.

Solution 2.1

Worked steps

a collection of related values processed together **B1**.

Practice 2.2 ■ 1 mark

State why a collection is more convenient than many separate variables.

Solution 2.2

Method: Data sets and collections

Worked steps

one loop can process every value, instead of naming each separately **B1**.

Practice 2.3 ■ 1 mark

Name one common operation on a data set.

Solution 2.3

Worked steps

storing, reading, or summarizing values (any one) **B1**.

Exam-style 3.1 ■ 1 mark

A data set is a collection of

- A** unrelated values
- B** related values processed together
- C** methods
- D** classes

Solution 3.1

Method: Data sets and collections

- A unrelated values
- B related values processed together
- C methods
- D classes



Worked steps

B.

Exam-style 3.2 ■ 1 mark

Storing 100 scores is easier with

A 100 separate variables

B one collection

C no storage at all

D a constructor

Solution 3.2

A 100 separate variables

B one collection 

C no storage at all

D a constructor

Worked steps

B.

Exam-style 3.3 ■ 1 mark

A program stores the daily temperatures for a month.

- (a) Name a structure that could hold them.
- (b) State one operation you might perform on them.
- (c) State one benefit over using separate variables.

Solution 3.3

Method: Data sets and collections

Worked steps

- (a) an array (or list) **B1**. (b) find the sum, average, or maximum (any one) **B1**.
- (c) all values can be processed with a single loop **B1**.