

3.14 Libraries

Name: _____ Class: _____ Date: _____ **Total: 8 marks**

KEY WORDS library 库 • api 应用程序接口 • functionality 功能 • abstraction 抽象 • list 列表

Objective

Build the skills to answer exam questions on **libraries**.

You must be able to:

- explain how a **library** 库 is a collection of reusable procedures
- describe how an **API** 应用程序接口 documents how to use a library
- call library procedures to add **functionality** 功能 without writing it from scratch
- select an appropriate library for a problem

1 Worked examples

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

■ Library and API

A **library** is a collection of procedures that can be reused across programs. An **API** (application program interface) documents **how to use** the library — what procedures exist and what they need.

■ Why use one

Calling library procedures adds **functionality without writing it from scratch**, and libraries support **abstraction** by hiding complex implementation detail.

2 Practice

2.1 Define a software library. [1]

2.2 State what an API documents. [1]

2.3 State one benefit of using a library. [1]

3 Exam-style questions

3.1 A library is a collection of [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** variables
 - B** reusable procedures
 - C** errors
 - D** bytes

3.2 An API is used to [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** store data
 - B** document how to use a library
 - C** compress files
 - D** sort a list

3.3 A developer needs graph-drawing features for a program.

- (a) State whether to write them from scratch or use a library. [1]
- (b) Name what documents the library’s use. [1]
- (c) State how libraries support abstraction. [1]