MODULE O ROBUST PROGRAMS · O7

Choosing test data

Original practice questions · 21 marks · ~25 minutes · Cambridge 0478 syllabus 7.6 (with 7.8)

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. Use the Cambridge names for types of test data: **normal**, **abnormal**, **extreme** and **boundary**. Where you are asked for test data, give an actual value, not a description. Write any corrections using pseudocode. The total for this worksheet is **21 marks**.

1

Total: 3 marks

(a) State what is meant by **normal** test data. **[1]**

(b) Describe the difference between **extreme** test data and **boundary** test data. **[2]**

2

Total: 5 marks

A ferry company's booking program asks for the number of passengers in a booking. The number must be a **whole number** from **1 to 9** inclusive.

(a) Complete the table. For each item of test data, give the type of test data and whether the program should **accept** or **reject** it. **[5]**

Test data (passengers)	Type of test data	Accept or reject?
4		
9		
15		
four		
0		

3 **Total: 6 marks**

A bike-hire shop lets customers hire a bike for a whole number of hours from **1 to 8** inclusive. This algorithm should only accept a hire length in this range.

```
01 DECLARE Hours : INTEGER
02 REPEAT
03     OUTPUT "Enter hire length in hours (1 to 8)"
04     INPUT Hours
05     IF Hours < 1 OR Hours >= 8
06       THEN
07         OUTPUT "Invalid: enter 1 to 8"
08     ENDIF
09 UNTIL Hours >= 1 AND Hours < 8
10 OUTPUT "Hire booked for ", Hours, " hours"
```

(a) Give the **boundary** test data for the **upper** limit of the range. State the expected outcome for each value. **[2]**

(b) The algorithm is tested with your test data from part (a). Describe what happens, and explain what this shows about the algorithm. **[2]**

(c) Identify the **two** line numbers that need to be changed and write the corrected line for each. **[2]**

Line number	Corrected line

4 Total: 4 marks

A community radio station's staff log in to its music library. A password must be from **10 to 16 characters** long (inclusive).

(a) Give **one** example of **extreme** test data and **one** example of **abnormal** test data for the password length check. Give a reason for each choice. **[4]**

Extreme

Abnormal

5 Total: 3 marks

An online craft shop only accepts an order quantity that is a whole number from **1 to 20** inclusive. The programmer tests the program using only these three values: **5**, **10** and **15**.

(a) Explain why this testing is **not** enough. Include examples of other test data the programmer should use. **[3]**

Total for this worksheet: 21 marks