

Paper reference 4CP0/02
Pearson Edexcel
International GCSE (9 – 1)

Computer Science
PAPER 2: Application of Computational
Thinking

Monday 5 – Wednesday 7 June 2023
Time: 3 hours

Data Book

**In the boxes below, write your name,
centre number and candidate number.**

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

**THIS DATA BOOK MUST BE RETURNED
WITH THE QUESTION PAPER
AT THE END OF THE EXAMINATION.**

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Spare copies

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Question 1 (a)
Figure 1

Date	Description	Debit (£)	Credit (£)	Balance (£)
01 Jan	Opening balance			128.35
04 Jan	Music store	10.23		118.12
07 Jan	Salary		1,515.28	1,633.40
11 Jan	Electricity company	50.00		1,583.40
19 Jan	Uniform shop	12.56		1,570.84
27 Jan	Refund		25.00	1,595.84
29 Jan	Rent	750.00		845.84
31 Jan	Interest		0.25	846.09

Question 1 (a)

Table

INPUT	
PROCESSING	
OUTPUT	

Question 2 (b) (i)
Table

	ADULT	CHILDREN
Normal		
Boundary		
Erroneous		

Question 2 (b) (ii)
Test data

Chips in stock (kilograms)	Number of adults	Number of children	Expected output
19	100	150	Stocks available
15	100	150	Order 4.0 kilograms

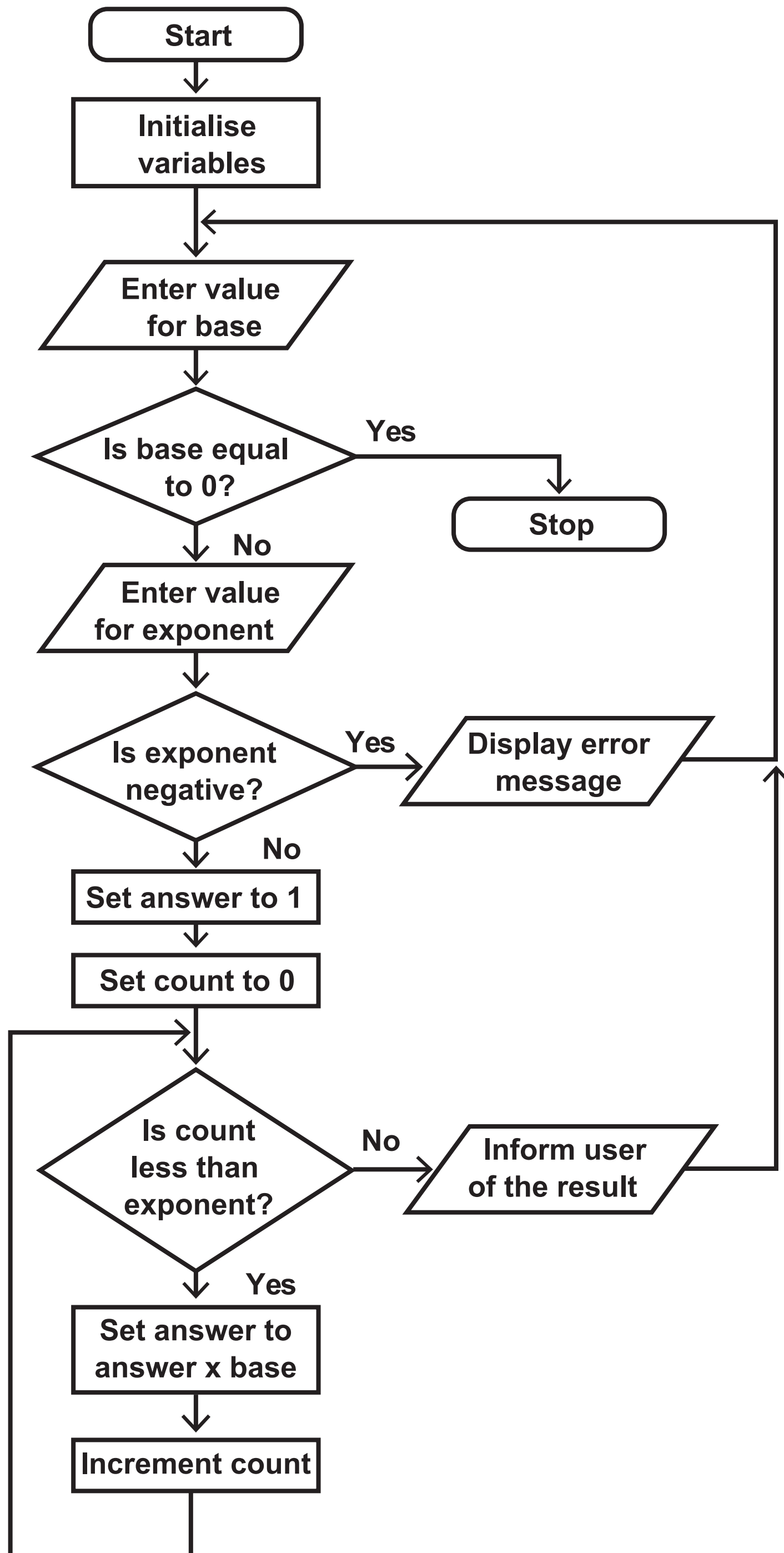
Question 3 (b)

Figure 2

```
1  RECEIVE num1 FROM (INTEGER) KEYBOARD
2  RECEIVE num2 FROM (INTEGER) KEYBOARD
3  IF (((num1 < 16) AND (num2 < 23)) OR (num2 = 13)) THEN
4      SEND "State 1" TO DISPLAY
5  ELSE
6      IF ((num2 > 12) AND (num1 > 20)) THEN
7          SEND "State 2" TO DISPLAY
8      ELSE
9          IF ((num1 = 88) OR NOT (num2 = 18)) THEN
10             SEND "State 3" TO DISPLAY
11         ELSE
12             SEND "State 4" TO DISPLAY
13         END IF
14     END IF
15 END IF
```


Question 3 (b) Table

NUM1	NUM2	OUTPUT
88	18	
17	18	
12	19	



Question 4 (a) (i)
Table

PLAINTEXT	SHIFT	CIPHERTEXT
PIXEL	−4	
CLOUD		FORXG

Question 5 (a)

Blank space to complete the merge sort.

Question 5 (b)

FIGURE 6

```
1  SET myTuna TO ["Bigeye", "Blackfin", "Albacore",
2                  "Longtail", "Bluefin"]
3  SET tmp TO 0
4  SET swaps TO True
5  SET length TO LENGTH (myTuna)
6
7  WHILE (swaps = True) DO
8      SET swaps TO False
9      FOR ndx FROM 0 TO length - 1 DO
10         IF myTuna[ndx] > myTuna[ndx + 1] THEN
11             SET tmp TO myTuna[ndx + 1]
12             SET myTuna[ndx] TO myTuna[ndx + 1]
13             SET myTuna[ndx + 1] TO tmp
14             SET swaps TO True
15         END IF
16     END FOR
17 END WHILE
```

Question 5 (b)
Table

LINE NUMBER WITH ERROR	
CORRECTED LINE OF PSEUDOCODE	

Question 5 (c)
Figure 7

101, Yellowfin, 105, 15, 3

102, Albacore, 90, 15, 5

103, Skipjack, 50, 25, 4

104, Bigeye, 105, 25, 4

105, Atlantic Bonito, 50, 4, 2

106, Northern Bluefin, 190, 120, 11

107, Southern Bluefin, 190, 120, 11

108, Tongol, 90, 20, 4

Question 6

Figure 8

Fields are: Breed, Rating, Volume (cow) , Count, Volume (day)

Red Chittagong 1 7.5 6 45.0

Sussex 2 5.7 3 17.1

Dexter 3 11.4 8 91.2

Abondance 2 11.4 7 79.8

Sahiwal 3 22.0 6 132.0

Vorderwald 1 15.2 4 60.8

Ayrshire 2 21.0 3 63.0

Jersey 1 18.3 7 128.1

Randall 2 19.0 3 57.0

Alderney 1 9.0 3 27.0

Carora 3 23.1 4 92.4

Gloucester 2 16.0 7 112.0

Total : 905.4 litres

Recommended breed: Jersey rating: 1 volume 18.3

Question 1 (a)
Table

INPUT	
PROCESSING	
OUTPUT	

Question 2 (b) (i)
Table

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Erroneous		

Question 3 (b) Table

NUM1	NUM2	OUTPUT
88	18	
17	18	
12	19	

Question 4 (a) (i)
Table

PLAINTEXT	SHIFT	CIPHERTEXT
PIXEL	−4	
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Question 5 (a)

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Question 5 (b)
Table

LINE NUMBER WITH ERROR	
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