

6 This pseudocode algorithm is intended to allow 1000 positive integers to be input and stored in a one-dimensional (1D) array. The integers are added together as they are input and the highest value is identified. At the end of the algorithm, the highest number, the total and the average of the numbers are output.

```
01 DECLARE Numbers : ARRAY[1:1000] OF INTEGER
02 DECLARE Highest : STRING
03 DECLARE Count : INTEGER
04 DECLARE Total : INTEGER
05 Highest ← 1500
06 Total ← 0
07 FOR Count ← 1 TO 1000
08     INPUT Numbers[Count]
09     Total ← Total + Count
10     IF Numbers[Count] > Total
11         THEN
12             Highest ← Numbers[Count]
13     ENDIF
14 NEXT Count
15 OUTPUT "The highest number is ", Highest
16 OUTPUT "The total is ", Total
17 OUTPUT "The average is ", Average / 1000
```

(a) Identify the line numbers of **five** errors in the pseudocode and suggest a correction for each error.

Error 1 line number

Correction

Error 2 line number

Correction

Error 3 line number

Correction

Error 4 line number

Correction

Error 5 line number

Correction

[5]

(b) Write the pseudocode statement to output the average of the numbers, rounded to **two** decimal places.

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..... [2]

(c) Explain how you could change the corrected algorithm so that it also finds the smallest number that was input and outputs its value at the end.

Any code used must be fully explained.

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..... [4]