

4 This pseudocode algorithm is intended to allow, at random, between 1 and 20 values to be entered and totalled. The total and average of the entered values are output at the end of the algorithm.

```
01 DECLARE Loop : STRING
02 DECLARE Limit : INTEGER
03 DECLARE Value : REAL
04 DECLARE Total : REAL
05 Total ← 0
06 Limit ← ROUND(RANDOM() * 19,0) + 1
07 IF Loop ← 1 TO Limit
08     OUTPUT "Enter a number"
09     INPUT Loop
10     Total ← Total * Value
11 NEXT Loop
12 OUTPUT "The total of the numbers entered is ", Total
13 OUTPUT "The average of the numbers entered is ", Total / Limit
```

(a) Identify the line numbers of **four** errors in the pseudocode and suggest corrections.

Error 1 line number

Correction

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Error 2 line number

Correction

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Error 3 line number

Correction

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Error 4 line number

Correction

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[4]

(b) Write the pseudocode statement that would output the average calculated in line 13 of the algorithm rounded to **one** decimal place.

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..... [2]

(c) Explain how you should alter the original corrected algorithm to make sure that all the numbers entered are between 1 and 500 inclusive. If any numbers fall outside these limits, a replacement value is requested and entered.

You do **not** need to re-write the algorithm.

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..... [4]