

5 This pseudocode algorithm should allow 500 names of people and their heights to be entered and stored in two one-dimensional (1D) arrays. The name of a person and the height of that person are in the same index in both the `Names[]` and the `Heights[]` arrays.

The algorithm performs as follows:

- at the start, the following data is entered:
 - name of person
 - height of person in cm
- the data is stored in the relevant arrays
- the heights of the people are totalled
- the shortest person is found
- at the end, the following is output:
 - name of shortest person
 - height of shortest person
 - average height of all 500 people.

```

01 DECLARE Names : ARRAY[1:500] OF REAL
02 DECLARE Heights : ARRAY[1:500] OF REAL
03 DECLARE Shortest : REAL
04 DECLARE Total : REAL
05 DECLARE Counter : INTEGER
06 DECLARE Index : INTEGER
07 Shortest ← 500
08 Index ← 0
09 Total ← 100
10 FOR Counter ← 1 TO 500
11     INPUT Names[Index]
12     INPUT Heights[Counter]
13     Total ← Counter + Heights[Counter]
14     IF Heights[Counter] < Shortest
15         THEN
16             Shortest ← Heights[Counter]
17             Index ← Counter
18     ENDIF
19 NEXT Counter
20 OUTPUT "The shortest height is ", Heights
21 OUTPUT "The shortest person is ", Names[Index]
22 OUTPUT "The average height is ", Total / 500
  
```

(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 that will output the average height rounded to **one** decimal place.

.....

..... [2]

(c) Explain how you could change the corrected algorithm so that it will also:

- find the height of the tallest person.
- output the height of the tallest person at the end of the algorithm.

Any program statements used must be fully explained.

.....

.....

.....

.....

.....

.....

.....