

5 This pseudocode algorithm is intended to sort 200 names in ascending order, using a bubble sort. The last names and first names are stored in separate columns of a two-dimensional (2D) array. The last names are stored in column 1 of the array.

```

01 // The array Names[] has already been declared as
02 // ARRAY[1:200, 1:2] OF STRING and it is already populated
03 DECLARE Row : STRING
04 DECLARE Temp1 : STRING
05 DECLARE Temp2 : STRING
06 DECLARE Swap : BOOLEAN
07 Swap ← FALSE
08 WHILE NOT Swap DO
09     Swap ← FALSE
10     FOR Row ← 2 TO 199
11         IF Names[Row, 1] > Names[Row + 1, 1]
12             THEN
13                 Temp1 ← Names[Row, 1]
14                 Temp2 ← Names[Row, 2]
15                 Names[Row, 1] ← Names[Row + 1, 1]
16                 Names[Row, 2] ← Names[Row + 1, 2]
17                 Names[Row + 1, 1] ← Temp1
18                 Names[Row + 1, 2] ← Temp2
19                 Swap ← TRUE
20             ENDIF
21     NEXT Row
22 ENDWHILE

```

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

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 for an algorithm, using nested iteration, to output the contents of Names []

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 [4]

(c) Describe a possible problem with the algorithm that could mean the names are **not** sorted accurately.

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 [2]