6 A check digit is one method to validate a 5-digit number.

The check digit for a 5-digit number is calculated as follows:

- Each digit is multiplied by its position (the first digit on the left is in position 1).
- The result of each multiplication is totalled.
- `MOD(Total, 11)` is used to calculate the check digit.
- If the result of the MOD function is 10, the check digit is 'X'.

For example:

The calculation of the check digit for the 5-digit number 30475 is as follows:

Multiply each digit by its position and total the results:

(3 * 1) + (0 * 2) + (4 * 3) + (7 * 4) + (5 * 5) = 68

Calculate the check digit with `MOD(Total, 11)`

`MOD(68, 11) = 2`

The check digit for 30475 is 2

This pseudocode algorithm should calculate and output the check digit of a 5-digit number:

```
01  DECLARE Total : INTEGER
02  DECLARE Digit : INTEGER
03  DECLARE CheckDigit : CHAR
04  Total ← 0
05  FOR Count ← 1 TO 10
06      OUTPUT "Please enter digit ", Count
07      INPUT Digit
08      Total ← Total + (Digit / Count)
09  NEXT Count
10  CheckDigit ← MOD(Total, 11)
11  IF CheckDigit = 10
12    THEN
13      OUTPUT "The check digit is X"
14    ELSE
15      OUTPUT "The check digit is ", Count
16  ENDIF
```

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

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) Explain how you could modify the pseudocode to validate that each input is a single digit.

Any code must be fully explained.

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..... [3]

(c) The 5-digit number needs to be entered as a single input.

Describe **one** verification method that could be applied to the input of the 5-digit number.

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..... [2]