4 A quiz has nine questions. There are:

- five easy questions each worth 3 points
- four hard questions each worth 5 points.

At the end of the quiz the points for each correctly answered question are added to give a total score.

A check is made to test that the total score is valid using a 1D array `CheckTotal` of type `BOOLEAN`. Each index value of the array represents a possible total score. The corresponding element value is `TRUE` if the index value represents a valid total score and `FALSE` otherwise.

The first nine rows of the array are:

Index value	Element value	Comment
0	`TRUE`	valid total score (no correct answers)
1	`FALSE`	invalid total score
2	`FALSE`	invalid total score
3	`TRUE`	valid total score (one 3-point question correct)
4	`FALSE`	invalid total score
5	`TRUE`	valid total score (one 5-point question correct)
6	`TRUE`	valid total score (two 3-point questions correct)
7	`FALSE`	invalid total score
8	`TRUE`	valid total score (one 3-point question and one 5-point question correct)

For example, a total score of 6 points is valid; the value of the array element at index value 6 is `TRUE`

(a) Write pseudocode to declare `CheckTotal` and to set all elements of the array to `FALSE`

All variables used must be declared.

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..... [4]

(b) The pseudocode represents an algorithm to set the appropriate elements of the array to `TRUE`

Complete the pseudocode:

```
DECLARE EasyQ, HardQ : INTEGER

FOR EasyQ ← ..... TO 15 STEP .....

   FOR HardQ ← 0 TO ..... STEP .....

      CheckTotal[.....] ← TRUE

   NEXT HardQ

NEXT EasyQ
```

[5]

(c) The array elements have been assigned the required values.

A module `ValidateScore()` will take an integer value representing a total score as a parameter. It will return `TRUE` if the total score is valid, or `FALSE` if it is **not** valid.

Describe the algorithm for `ValidateScore()` using **four** steps.

Do **not** use pseudocode in your answer.

Step 1 .....

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Step 2 .....

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Step 3 .....

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Step 4 .....

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[4]