

5 A program is being designed in pseudocode.

The program contains the following declaration for the global array `MyData`:

```
DECLARE MyData : ARRAY[1:10000] OF STRING
```

A function `FindFirst()` is written to search the array for a given string and to return the index of the first element where that string is found, or to return `-1` if the string is **not** found.

The function is written in pseudocode as shown:

```
FUNCTION FindFirst(SearchString : STRING) RETURNS INTEGER
  DECLARE Index, FoundAt : INTEGER
  FoundAt ← -1
  FOR Index ← 1 TO 10000
    IF MyData[Index] = SearchString THEN // outer conditional clause
      IF FoundAt = -1 THEN // inner conditional clause
        FoundAt ← Index
      ENDIF
    ENDIF
  NEXT Index
  RETURN FoundAt
ENDFUNCTION
```

(a) (i) Comment on why the programmer chose `-1` as the initial value of `FoundAt`

.....  
..... [1]

(ii) Explain the purpose of the **outer** conditional clause.

.....  
..... [1]

(iii) The **inner** conditional clause ensures that only the index of the **first** matching element, if any, is returned.

Explain how this clause works.

.....  
..... [1]

(b) The pseudocode does **not** use the most appropriate loop construct.

(i) Explain why this is **not** the most appropriate loop construct.

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..... [1]

(ii) Suggest and justify a more appropriate loop construct that could be used.

Construct .....

Justification .....

..... [2]