

- 6** A factory produces food items. The items must be used within a certain number of days after their production date. The number of days is known as the shelf life. It is different for each type of item but is always a whole number in the range 1 to 21 (inclusive).

The latest date that an item can be used is called the ‘use-by’ date.

A program is needed to produce labels which show the ‘use-by’ date.

Part of the program is a function `GetDate()` which will:

- take two parameters: a production date and a value representing the shelf life
- return the corresponding ‘use-by’ date.

The program contains a global 1D array `DaysInMonth` of type integer which stores the number of days in each month (index 1 is January):

Index	Value
1	31
2	28
3	31
4	30
11	30
12	31

Note: Leap years are **not** considered

- (a)** An algorithm uses the array `DaysInMonth` to calculate a ‘use-by’ date. An alternative design would involve the use of multiple selection statements.

An array-based technique is often used when there is a large number of different values to check and where no pattern exists.

One advantage of using an array-based technique is the speed of execution compared to the use of multiple selection statements.

Give **two other** advantages of using an array for this type of operation rather than a solution based on multiple selection statements.

1

.....

2

.....

(b) Complete the pseudocode for the function GetDate().

Date functions from the **insert** should be used in your solution.

```
FUNCTION GetDate(ProductionDate : DATE, ShelfLife : INTEGER) RETURNS DATE
```

ENDFUNCTION