4 A global integer variable `Tick` is always incremented every millisecond (1000 times per second) regardless of the other programs running.

The value of `Tick` can be read by any program but the value should not be changed.

Assume that the value of `Tick` does not overflow.

As an example, the following pseudocode algorithm would output `"Goodbye"` 40 seconds after outputting `"Hello"`.

```
DECLARE Start : INTEGER

OUTPUT "Hello"
Start ← Tick

REPEAT
   //do nothing
UNTIL Tick = Start + 40000

OUTPUT "Goodbye"
```

A program is needed to help a user to time an event such as boiling an egg.

The time taken for the event is known as the elapsed time.

The program contains a procedure `Timer()` which will:

- take two integer values representing an elapsed time in minutes and seconds
- use the value of variable `Tick` to calculate the elapsed time
- output a warning message 30 seconds before the elapsed time is up
- output a final message when the total time has elapsed.

For example, to set an alarm for 5 minutes and 45 seconds the program makes the following call:

```
CALL Timer(5, 45)
```

When 5 minutes and 15 seconds have elapsed, the program will output:

```
"30 seconds to go"
```

When 5 minutes and 45 seconds have elapsed, the program will output:

```
"The time is up!"
```

Write pseudocode for the procedure `Timer()`.

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