1 A text file, `TIDES.TXT`, contains the low and high tide information for a coastal location for each day of a month. Each line contains tab-delimited data that shows the date, the time, whether the tide is high or low and the tide height in metres.

Each line is in the format:

```
YYYY-MM-DD\tHH:mm\tTIDE\tHEIGHT\n
```

- The date is in the form YYYY-MM-DD, for example, 2019-08-03 is 3rd August, 2019
- The time is in the form HH:mm, for example, 13:47
- TIDE is either HIGH or LOW
- HEIGHT is a positive number shown to one decimal place
- `\t` represents the tab character
- `\n` represents the newline character

The text file is stored in ascending order of date and time.

Task 1.1
Write program code to:

- read the tide data from a text file
- find the highest high tide and print this value
- find the lowest low tide and print this value.

Use `TIDES.TXT` to test your program code.

[9]

Task 1.2
The tidal range is the difference between the heights of successive tides; from a high tide to the following low tide or from a low tide to the following high tide.

Amend your program code to:

- output the largest tidal range and the date on which the second tide occurs
- output the smallest tidal range and the date on which the second tide occurs.

Use `TIDES.TXT` to test your program code.

[9]