

## Converting time to military time

Sometimes, the string processing facilities given by Python are not enough and we have to process a string from left to right, making case distinctions. Assume that we are given strings that express time in the “am/pm” format. A valid string consists of the hour followed by none or one blank space, a colon, none or one blank space, the minutes in one or two digits, and then followed by “am” or “pm”, with a possible white space in between. We want to convert the string to military time, i.e. with the hours ranging from 0 to 23. There might be additional white spaces in front and back of the string.

To process such a string, we have to run to the following steps. Starting from the left, we look for digits, which we store until we either hit a blank or a colon. We then jump over a combination of optional blank space, colon, optional blank space. However, if there are for example two colons, then we should return the string “Error”. Afterwards, we have to have two digits, which constitute the minutes. Directly afterwards or maybe after one blank, we have the strings “am” or “pm”.

In order to convert correctly, we need to take the special conventions for 12:00 noon and midnight into account. For example, “12:01 am” becomes “0:01”, whereas “1:01am” becomes “1:01”.