



Notice that every predictor but clock has NA for every entry. Furthermore, we see a line that says that fourteen coefficients were "not defined because of singularities." This statement means that R could not compute a value for those coefficients because of some anomalies in the data. (More technically, it could not invert the matrix used in the least-squares minimization process.)

The first step toward resolving this problem is to notice that 72 observations were deleted due to "missingness," leaving only four degrees of freedom. We use the function nrow(int92.dat) to determine that there are 78 total rows in this data frame. These 78 separate observations sum up to the two predictors used in the model, plus four degrees of freedom, plus 72 deleted rows. When we tried to develop the model using lm(), however, some of our data remained unused.

To determine why these rows were excluded, we must do a bit of sanity checking to see what data anomalies may be causing the problem. The function table() provides a quick way to summarize a data vector, to see if anything looks obviously out of place. Executing this function on the clock column, we obtain the following:

The top line shows the unique values that appear in the column. The list of numbers directly below that line is the count of how many times that particular value appeared in the column. For example, 48 appeared once, while 50 appeared three times and 60 appeared four times. We see a reasonable range of values with minimum (48) and maximum (350) values that are not unexpected. Some of the values occur only once; the most frequent value occurs ten times, which again does not seem unreasonable. In short, we do not see anything obviously amiss with these results. We conclude that the problem likely is with a different data column.

Executing the table() function on the next column in the data frame threads produces this output:

```
> table(threads)
threads
1
78
```