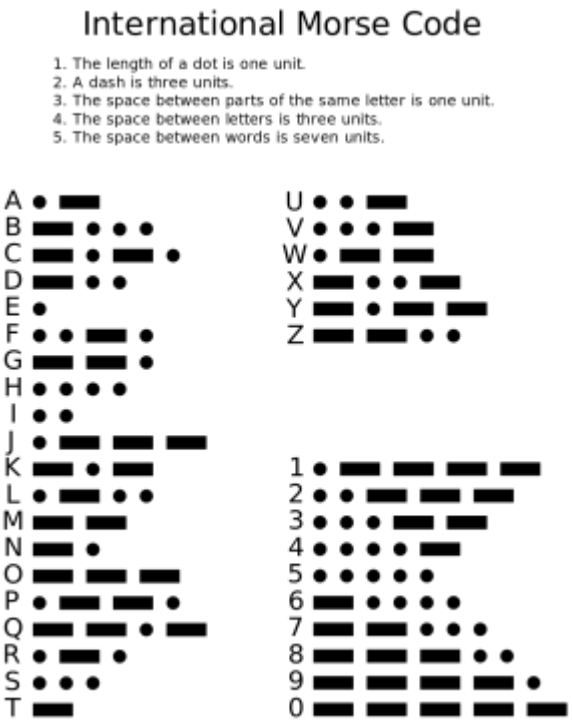
Rothkopf's experiment with Morse codes

Source of data

Rothkopf (1957), data used here were distilled from library `xgobi`[1)]



Description of the dataset

The aim of the study was to show, which Morse codes are the most easy to be confused. Each Morse code is a set of short (0.05 sec) and/or long (0.15 sec) beeps. Experiment was joined by 598 respondents, and Rothkopf played each of them different combinations of Morse codes, separated by short pause. Each respondent should quickly decide, whether the played codes were the same or different. The result is *confusion matrix*, in which each number represents number of cases when respondents consider the given combination of codes to be different. The higher the number, the easier are the codes recognisable.

The example of the matrix `morse.dist` is below:

	A	**B**	**C**	**D**	**E**	**F**	**G**
.-	0	167	169	159	180	164	163
-. . .	167	0	96	79	163	95	139
-.-.	169	96	0	141	166	115	137
-..	159	79	141	0	172	136	100
.	180	163	166	172	0	183	182
..-.	164	95	115	136	183	0	156
—.	163	139	137	100	182	156	0

I created also another dataset, which two attributes of each Morse code: the length (number of beeps), and the ration between the number of long and short beeps. The example of matrix `morse.attr` is as below:

	length	**ratio.short.long**

	length	ratio.short.long
.-	2	0.5
-...	4	0.75
-.-.	4	0.5
-..	3	0.6666667
.	1	1
..-.	4	0.75
-.	3	0.3333333

Data for download

```
morse.dist <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/morsecodes-dis
t.txt', row.names = 1, head = T)
morse.attr <- read.delim
('https://raw.githubusercontent.com/zdealveindy/anadat-r/master/data/morsecodes-att
r.txt', row.names = 1, head = T)
```

References

Rothkopf, E. Z. (1957): A measure of stimulus similarity and errors in some paired-associate learning tasks. *Journal of Experimental Psychology*, 53:94–101.

1)
This library is not supported anymore, but it's still available here. Thanks to Prof Dianne Cook from Monash Uni in Melbourne, Australia, for the updated link.

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