

Now imagine we find the distributions of reading times for our two conditions are positively skewed (and we discover the residuals are non-normal). We could log transform these two columns and have two new columns in our data frame - let's call them `log_simple` and `log_complex`. We can use the `mutate` function in the `dplyr` package to create two new columns.

```
> data_transformed <- mutate(dataRT_all, log_simple = log(Simple_Sentence),  
log_complex = log(Complex_Sentence))
```

```
> data_transformed
```

	ID	WM	IQ	Comp	Simple_Sentence	Complex_Sentence	log_Simple	log_Complex
1	95	47	94	19	2154	2441	7.675082	7.758333
2	400	45	118	18	1824	2456	7.508787	7.825245
3	457	42	100	22	1857	2324	7.526718	7.912423
4	1138	41	77	18	1902	2341	7.550661	7.772753
5	1587	54	67	21	1844	2320	7.519692	7.685703
6	1805	52	109	19	2224	2256	7.707063	7.733684
7	1864	57	111	19	1880	2391	7.539027	7.800163
8	2006	44	110	19	2091	2456	7.645398	7.761745
9	2183	55	125	23	1926	2218	7.563201	7.771067
10	2318	51	91	21	1960	2440	7.580700	7.771489

Perhaps we have a reason to exclude a particular participant - number 2006 for example. We can use the filter function in `dplyr` to keep those participants where the ID number does not equal 2006.

```
filtered_data <- filter(data_transformed, ID != 2006)
```

`!=` stands for “not equal to”- here are other useful logical operators in R:

`<` less than

`<=` less than or equal to

`>` greater than

`>=` greater than or equal to

`==` exactly equal to

`!=` not equal to