AIC BIC

```
library(dplyr)
library(knitr)

load("data/input.RData")
load("data/mod_1.RData")
load("data/mod_2.RData")
load("data/mod_3.RData")
load("data/mod_4.RData")
load("data/mod_5.RData")
load("data/mod_6.RData")
load("data/mod_7.RData")
load("data/mod_8.RData")
load("data/mod_9.RData")
load("data/mod_10.RData")
```

```
aic <- function(loglik, k) {
  2*k - 2*loglik
}

bic <- function(loglik, k, n) {
  k*log(n) - 2*loglik
}
```

```
tib = tibble(Model = 1:10,
             loglik = c(mod_1$loglik, mod_2$loglik, mod_3$loglik, mod_4$loglik,
                        mod_5$loglik, mod_6$loglik, mod_7$loglik, mod_8$loglik,
                        mod_9$loglik, mod_10$loglik),
             k = c(length(unlist(mod_1)) - 2,
                   length(unlist(mod_2)) - 2,
                   length(unlist(mod_3)) - 2,
                   length(unlist(mod_4)) - 2,
                   length(unlist(mod_5)) - 2,
                   length(unlist(mod_6)) - 2,
                   length(unlist(mod_7)) - 2,
                   length(unlist(mod_8)) - 2,
                   length(unlist(mod_9)) - 2,
                   length(unlist(mod_10)) - 2),
             n = N) %>%
  rowwise() %>%
  mutate(AIC = aic(loglik, k),
         BIC = bic(loglik, k, n))
```

```
tib %>%
  arrange(AIC) %>%
  kable()
```

Model	loglik	k	n	AIC	BIC
9	-25851.51	75	2279	51853.01	52282.87
10	-25853.31	75	2279	51856.63	52286.49
3	-25862.92	73	2279	51871.85	52290.25
4	-25862.91	74	2279	51873.81	52297.94
2	-25862.54	75	2279	51875.07	52304.93
8	-25864.51	74	2279	51877.02	52301.15
1	-25860.17	79	2279	51878.35	52331.14
7	-25864.39	76	2279	51880.79	52316.38
5	-25858.02	84	2279	51884.04	52365.48
6	-25863.54	80	2279	51887.07	52345.59

```
tib %>%
  arrange(BIC) %>%
  kable()
```

Model	loglik	k	n	AIC	BIC
9	-25851.51	75	2279	51853.01	52282.87
10	-25853.31	75	2279	51856.63	52286.49
3	-25862.92	73	2279	51871.85	52290.25
4	-25862.91	74	2279	51873.81	52297.94
8	-25864.51	74	2279	51877.02	52301.15
2	-25862.54	75	2279	51875.07	52304.93
7	-25864.39	76	2279	51880.79	52316.38
1	-25860.17	79	2279	51878.35	52331.14
6	-25863.54	80	2279	51887.07	52345.59
5	-25858.02	84	2279	51884.04	52365.48