Class 16

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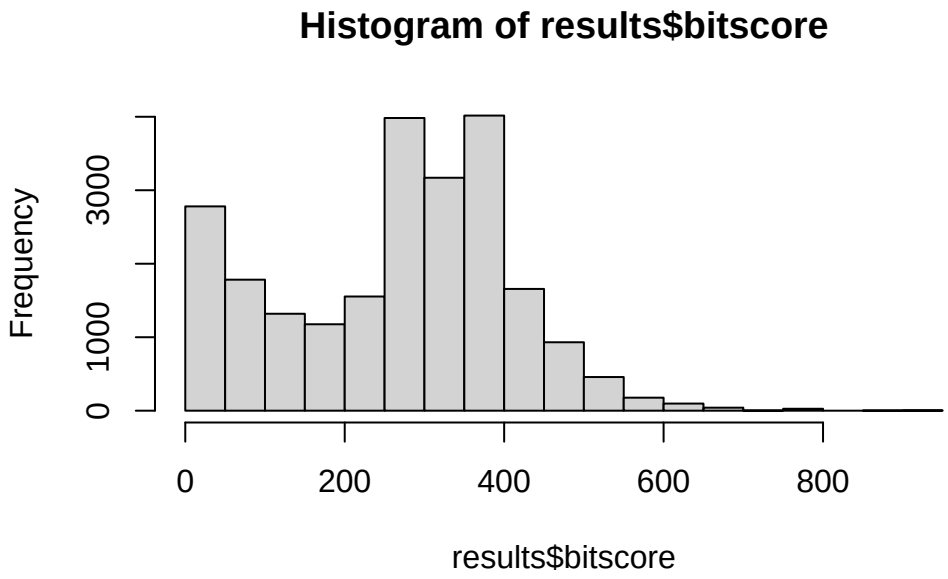
```
library(ggplot2)
```

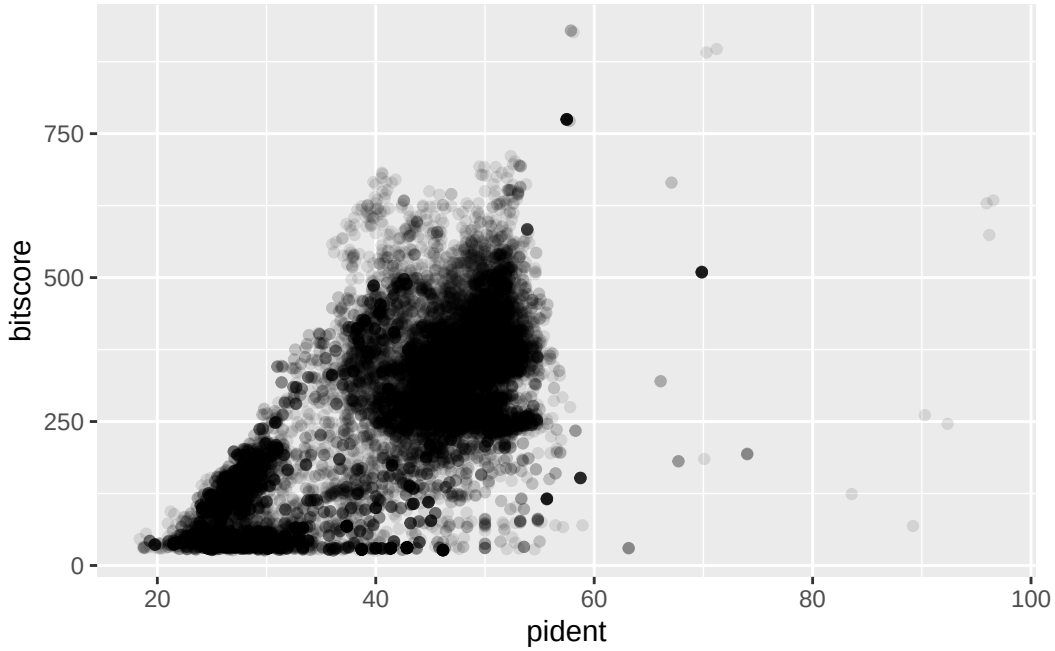
```
results <- read.table("results.tsv",
                      col.names = c("qseqid", "sseqid", "pident", "length", "mismatch", "gapo
```

```
hist(results$bitscore, breaks = 30)
```



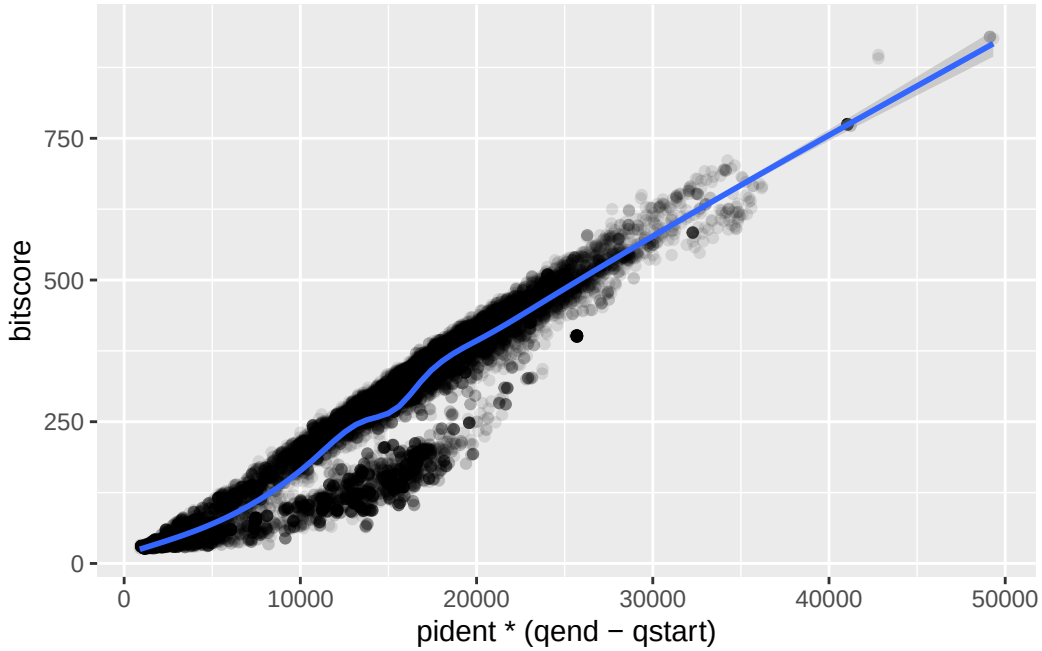
There are a few hits with very high bitscores, but the rest of the bitscores seem to be centered around ~350 with another peak close to 0.

```
ggplot(results) +
  aes(pident, bitscore) +
  geom_point(alpha = 0.1)
```




```
ggplot(results) +
  aes(pident * (qend - qstart), bitscore) +
  geom_point(alpha = 0.1) +
  geom_smooth()
```

```
`geom_smooth()` using method = 'gam' and formula = 'y ~ s(x, bs = "cs")'
```



Multiplying percent identity by alignment length reveals a strong relationship between scaled percent identity and bitscore.