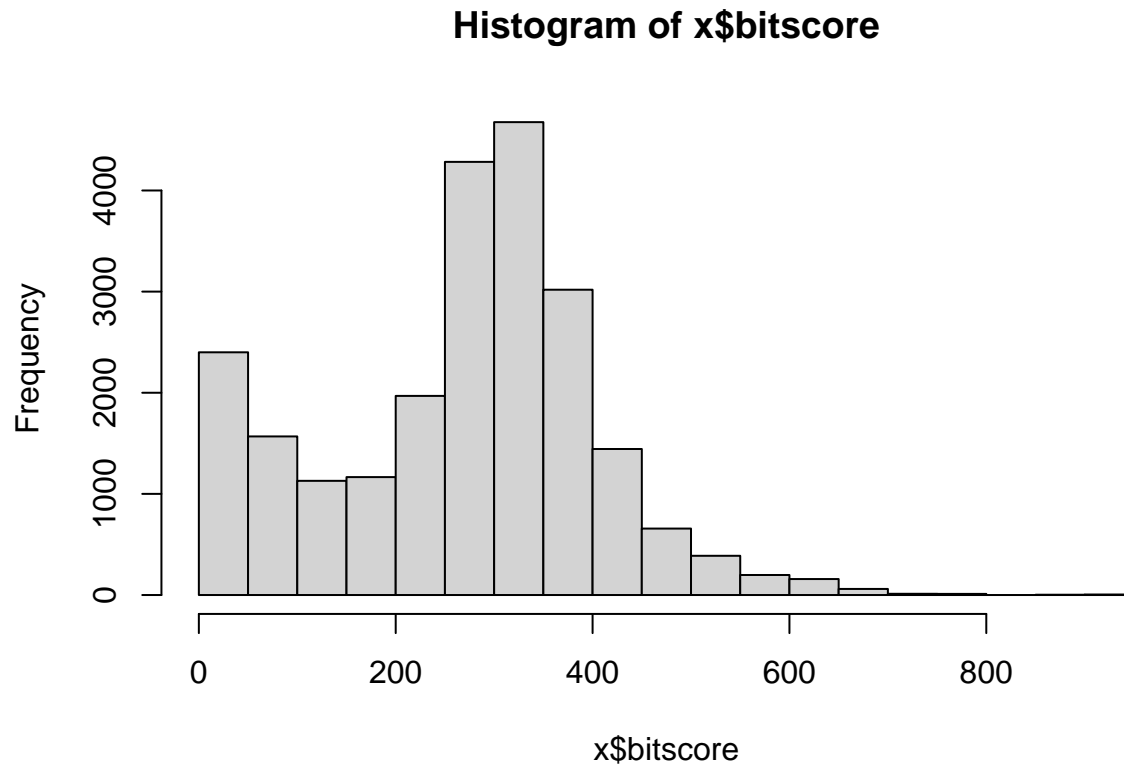


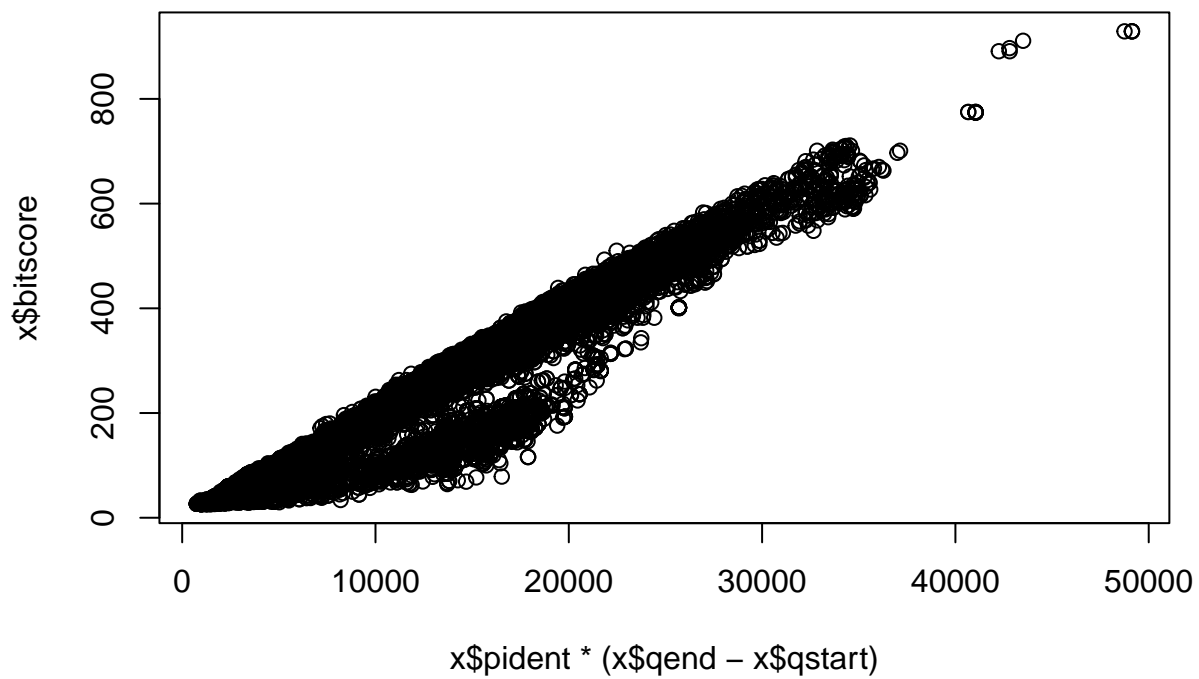
```
x <- read.delim("~/Desktop/class16/my_results.txt")

colnames(x) <- c("qseqid", "sseqid", "pident", "length", "mismatch", "gapopen", "qstart", "qend", "sstart", "send")

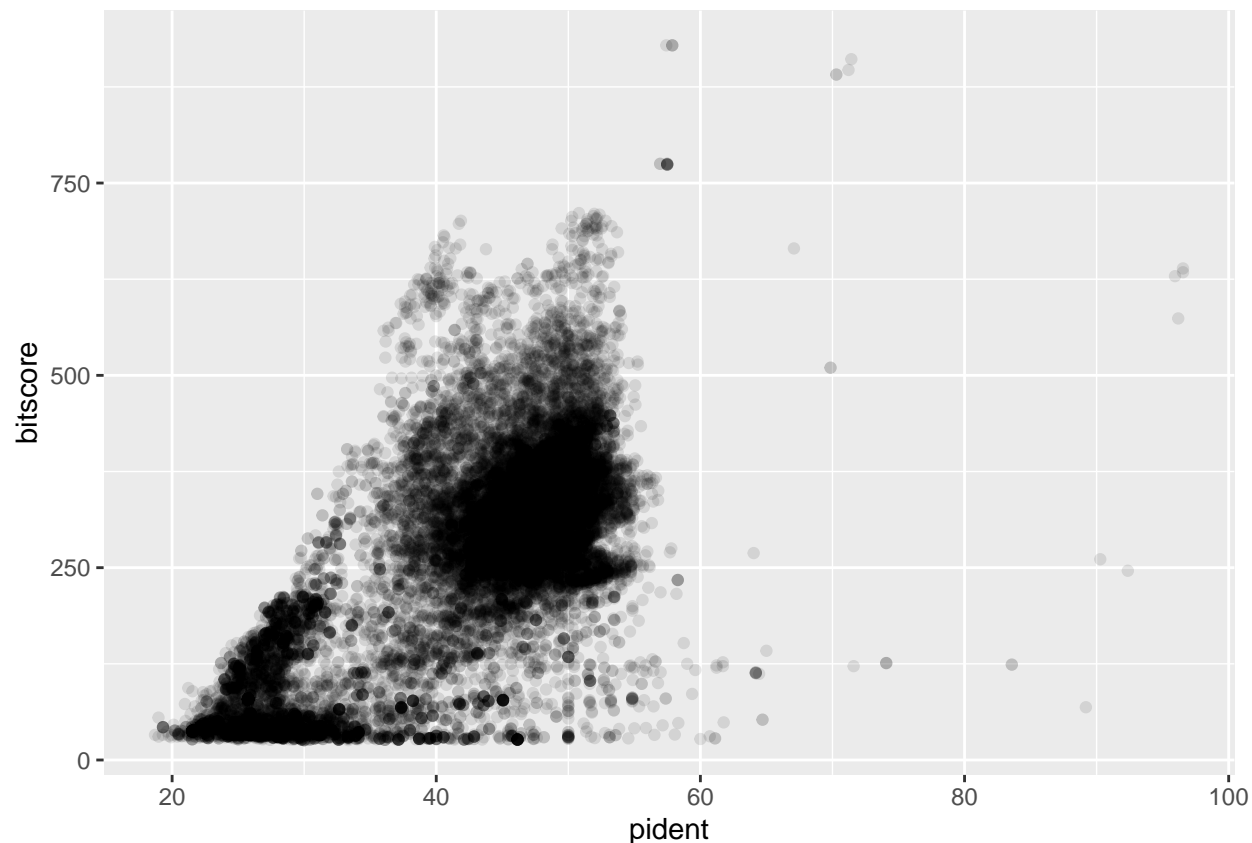
hist(x$bitscore, breaks=30)
```



```
plot(x$pident * (x$qend - x$qstart), x$bitscore)
```



```
library(ggplot2)
ggplot(x, aes(pident, bitscore)) + geom_point(alpha=0.1)
```



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

```
## Warning: Use of `x$pident` is discouraged.
## i Use `pident` instead.

## Warning: Use of `x$qend` is discouraged.
## i Use `qend` instead.

## Warning: Use of `x$qstart` is discouraged.
## i Use `qstart` instead.

## Warning: Use of `x$pident` is discouraged.
## i Use `pident` instead.

## Warning: Use of `x$qend` is discouraged.
## i Use `qend` instead.

## Warning: Use of `x$qstart` is discouraged.
## i Use `qstart` instead.

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

