1 Statistical analysis

1.1 mpg

```
##
## Call:
## lm(formula = f, data = mtcars)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -4.5432 -2.3647 -0.1252  1.4096  6.8727
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  37.2851     1.8776  19.858  < 2e-16 ***
## wt           -5.3445     0.5591  -9.559 1.29e-10 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.046 on 30 degrees of freedom
## Multiple R-squared:  0.7528, Adjusted R-squared:  0.7446
## F-statistic: 91.38 on 1 and 30 DF,  p-value: 1.294e-10
```

1.2 cyl

```
##
## Call:
## lm(formula = f, data = mtcars)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -2.14858 -0.77747 -0.04169  0.94448  1.87998
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   1.5925     0.6968   2.285   0.0295 *
## wt            1.4282     0.2075   6.883 1.22e-07 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.13 on 30 degrees of freedom
## Multiple R-squared:  0.6123, Adjusted R-squared:  0.5994
## F-statistic: 47.38 on 1 and 30 DF,  p-value: 1.218e-07
```

1.3 hp

```
##
## Call:
## lm(formula = f, data = mtcars)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
```

```
## -83.430 -33.596 -13.587   7.913 172.030
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -1.821     32.325  -0.056    0.955
## wt            46.160      9.625   4.796 4.15e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 52.44 on 30 degrees of freedom
## Multiple R-squared:  0.4339, Adjusted R-squared:  0.4151
## F-statistic:    23 on 1 and 30 DF,  p-value: 4.146e-05
```