?mtcars rm(mtcars)

load required libraries

```
library(ggplot2)
library(reshape2)
```

convert transmission variable to factor

```
mtcars$am = as.factor(1 - mtcars$am)
```

```
## Warning in Ops.factor(1, mtcars$am): '-' not meaningful for factors
```

```
levels(mtcars$am) = c("manual", "automatic")
mtcars$am
```

```
##  [1] <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
## [15] <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
## [29] <NA> <NA> <NA> <NA>
## Levels: manual automatic
```

fit a model for miles per gallon, using the type of transmission as the only predictor

```
model = glm(mpg ~ am + disp, data = mtcars)
```

```
## Error in `contrasts<-`(`*tmp*`, value = contr.funs[1 + isOF[nn]]): contrasts can be appli
```

```
summary(model)
```

```
##
## Call:
## glm(formula = mpg ~ am + disp, data = mtcars)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -4.6382  -2.4751  -0.5631   2.2333   6.8386
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 29.681539   1.218689  24.355  < 2e-16 ***
## amautomatic -1.833458   1.436100  -1.277    0.212
```

```
## disp        -0.036851   0.005782  -6.373 5.75e-07 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for gaussian family taken to be 10.35453)
##
##     Null deviance: 1126.05  on 31  degrees of freedom
## Residual deviance:  300.28  on 29  degrees of freedom
## AIC: 170.46
##
## Number of Fisher Scoring iterations: 2
```

qplot(x="am", y=Var2, data=melt(cor(mtcars$am, mtcars, use="p")), fill=value, geom="tile") + scale_fill_gradient2(limits=c(-1, 1))

```
plot(mtcars$am, mtcars$mpg, ylab = "miles per gallon", xlab = "transmission")
```

```
## Warning in min(x): no non-missing arguments to min; returning Inf
```

```
## Warning in max(x): no non-missing arguments to max; returning -Inf
```

```
## Error in plot.window(xlim = xlim, ylim = ylim, log = log, yaxs = pars$yaxs): i valori di
```

```
plot(mtcars$am, mtcars$wt, ylab = "weight", xlab = "transmission")
```

```
## Warning in min(x): no non-missing arguments to min; returning Inf
```

```
## Warning in max(x): no non-missing arguments to max; returning -Inf
```

```
## Error in plot.window(xlim = xlim, ylim = ylim, log = log, yaxs = pars$yaxs): i valori di
```

```
x <- 1:10
y <- round(rnorm(10, x, 1), 2)
df <- data.frame(x, y)
df
```

```
##    x    y
## 1  1 1.03
## 2  2 2.32
## 3  3 3.61
## 4  4 5.01
```

Figure 1: plot of chunk simpleplot

Figure 2: plot of chunk simpleplot2

```
## 5   5  4.29
## 6   6  5.81
## 7   7  6.37
## 8   8  7.38
## 9   9  9.54
## 10 10 11.67
```