

# Homework 6

Johnny Lydon

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## HW5

### Question 1

```
#1.1

path <- "data/spending.csv"

df <- read_csv(path)

df <- df %>%
  mutate(across(where(is.character), as.factor)) %>%
  rename_all(tolower) %>%
  drop_na()

#I'm already getting problems as usual.
```

```
#1.2

df %>%
  cor() %>%
  corrplot()

#I'm going to put this as my analysis for every question. :(
```

```
#1.3

lm <- lm(income ~., data = df)
summary(lm)

#:(
```

```
#1.3

vif <- vif(lm)

print(vif)
```

#1.4

```
pca <- princomp(df %>%  
                select(-income), cor = TRUE)  
  
summary(pca)
```

#1.5

```
screeplot(pca, type = "line")  
  
#:(
```

#1.8

```
df_pca <- cbind(df$income, pca$scores[, 1:4])  
head(df_pca)  
  
lm_pca <- lm(income ~ ., data = df_pca)  
summary(lm_pca)  
  
#:(
```

#1.10

*#Sadly, I have to leave this question blank.*