Practice Questions

Fin

Semester 1 2018

```
##
## Call:
## lm(formula = I(log(income)) ~ . + I(age^2) + year:educ, data = data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -3.6015 -0.3190 -0.0007  0.3175  2.7882
##
## Coefficients:
##                           Estimate Std. Error t value Pr(>|t|)
## (Intercept)             -6.593e-01  5.194e-02 -12.695  < 2e-16 ***
## countryDenmark           3.137e-01  1.723e-02  18.212  < 2e-16 ***
## countrySpain            -1.207e-01  1.759e-02  -6.863 7.01e-12 ***
## countryFrance            6.686e-02  1.566e-02   4.270 1.97e-05 ***
## countryNorthern Ireland -3.969e-02  2.133e-02  -1.861 0.062749 .
## countryItaly             1.214e-01  1.613e-02   7.525 5.59e-14 ***
## countryNetherlands       2.226e-01  1.613e-02  13.801  < 2e-16 ***
## happiness                4.709e-02  1.913e-02   2.461 0.013877 *
## sat_life                 2.904e-02  2.814e-03  10.319  < 2e-16 ***
## employment               2.698e-01  1.158e-02  23.299  < 2e-16 ***
## religious                4.645e-02  1.119e-02   4.150 3.34e-05 ***
## age                      7.975e-03  1.680e-03   4.746 2.10e-06 ***
## male                     5.013e-02  9.629e-03   5.206 1.96e-07 ***
## marriage                 3.029e-01  1.106e-02  27.391  < 2e-16 ***
## educ                     1.750e-01  8.634e-03  20.265  < 2e-16 ***
## child                    3.979e-02  1.108e-02   3.591 0.000330 ***
## atheist                  1.089e-01  2.330e-02   4.674 2.99e-06 ***
## year2008                -2.964e-01  2.438e-02 -12.160  < 2e-16 ***
## I(age^2)                -9.213e-05  1.658e-05  -5.559 2.77e-08 ***
## educ:year2008            4.194e-02  1.192e-02   3.520 0.000433 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5587 on 14266 degrees of freedom
## Multiple R-squared:  0.3177, Adjusted R-squared:  0.3168
## F-statistic: 349.7 on 19 and 14266 DF,  p-value: < 2.2e-16

## [1] 14286

##
##                   1999 2008
##    Belgium        1443 1341
##    Denmark         778 1046
##    Spain           745  915
##    France         1199 1339
##    Northern Ireland 663  290
##    Italy          1444  901
##    Netherlands     917 1265
```

```
##
## Call:
## lm(formula = I(log(income)) ~ . + I(age^2) + year:educ - sat_life -
##     religious - happiness - atheist, data = data)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -3.6682 -0.3275 -0.0015  0.3264  2.6285
##
## Coefficients:
##                          Estimate Std. Error t value Pr(>|t|)
## (Intercept)            -3.118e-01  4.392e-02  -7.099 1.31e-12 ***
## countryDenmark          3.320e-01  1.715e-02  19.356  < 2e-16 ***
## countrySpain           -1.304e-01  1.767e-02  -7.379 1.68e-13 ***
## countryFrance           6.301e-02  1.561e-02   4.035 5.48e-05 ***
## countryNorthern Ireland -1.939e-02  2.136e-02  -0.908 0.364125
## countryItaly            9.783e-02  1.595e-02   6.135 8.76e-10 ***
## countryNetherlands      2.344e-01  1.619e-02  14.482  < 2e-16 ***
## employment              2.802e-01  1.162e-02  24.115  < 2e-16 ***
## age                     5.908e-03  1.683e-03   3.511 0.000447 ***
## male                    5.485e-02  9.600e-03   5.714 1.13e-08 ***
## marriage                3.237e-01  1.090e-02  29.701  < 2e-16 ***
## educ                    1.812e-01  8.670e-03  20.901  < 2e-16 ***
## child                   3.780e-02  1.115e-02   3.392 0.000697 ***
## year2008               -2.931e-01  2.452e-02 -11.954  < 2e-16 ***
## I(age^2)               -7.495e-05  1.661e-05  -4.512 6.47e-06 ***
## educ:year2008           4.370e-02  1.199e-02   3.646 0.000267 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5621 on 14270 degrees of freedom
## Multiple R-squared:  0.3091, Adjusted R-squared:  0.3084
## F-statistic: 425.7 on 15 and 14270 DF,  p-value: < 2.2e-16
```