1. Load the data on wages, education, and age using the datasets distributed via email.

2. You will use wages (in logarithmic scale), schooling (S), and experience (X) to estimate the following model :

   $\text{Wages} = a_0 + a_1 S + a_2 S^2 + a_3 X + a_4 X^2 + a_5 SX$

   Create the variable Schooling-squared. Perform the regression and report the estimated equation (coefficients only – ignore the rest of the junk). Note: the intercept corresponds to the variable labeled **_cons** (for constant).

3. Calculate the marginal return to Schooling and the marginal return to Experience, i.e. the first derivative of wages with respect to schooling and with respect to experience. Note: Experience equals Age Minus Schooling Minus 6. Give an intuitive description of the marginal return functions. Calculate the second derivatives. Are marginal returns to experience increasing or decreasing? Are marginal returns to schooling increasing or decreasing?

4. Calculate the age at which people reach maximum earnings. Do this calculation for three different education profiles: those with 8, 12, 16 years of schooling. At what ages are wages maximized? What are the values of wages at which wages are maximized?

5. Calculate the lifetime earnings of someone with 8 years of education who retires at 65 and the lifetime earnings of someone with 16 years of education who retires at 65. This can be done with a summation or with an integral.