Consider the following linear model:

$$\log(y) = 3.2 + 1.87x$$

1. (3 points) Interpret the slope.

2. (5 points) Using the model, estimate the value of y when $x = 3.2$.

3. Consider the `Hitters.csv` data file. This data file contains information on 322 major league baseball players from the 1986 and 1987 season. This file contains the following information:

   - `AtBat`: Number of times at bat in 1986
   - `Hits`: Number of hits in 1986
   - `HmRun`: Number of home runs in 1986
   - `Runs`: Number of runs in 1986
   - `RBI`: Number of runs batted in in 1986
   - `Walks`: Number of walks in 1986
   - `Years`: Number of years in the major leagues
   - `CAtBat`: Number of times at bat during his career
   - `CHits`: Number of hits during his career
   - `CHmRun`: Number of home runs during his career
   - `CRuns`: Number of runs during his career
   - `CRBI`: Number of runs batted in during his career
   - `CWalks`: Number of walks during his career
   - `League`: A factor with levels A and N indicating player's league at the end of 1986
   - `Division`: A factor with levels E and W indicating player's division at the end of 1986
   - `PutOuts`: Number of put outs in 1986
   - `Assists`: Number of assists in 1986
   - `Errors`: Number of errors in 1986
   - `Salary`: 1987 annual salary on opening day in thousands of dollars
   - `NewLeague`: A factor with levels A and N indicating player's league at the beginning of 1987

   (a) (3 points) Using pandas, read the csv file and create a data-frame called `hitters`.

   (b) (3 points) Remove observation with missing values.

   (c) (4 points) Create a histogram of the `Salary` variable. Comment on the plot.

   (d) (7 points) Build a linear regression model in which `AtBat`, `Hits`, and `HmRun` are the predictor variables and `log(Salary)` is the target variable. After that, predict the salary of a baseball player in the 1987 season with `AtBat = 600`, `Hits = 220` and `HmRun = 35`.