Exercise 3: Size structure and weight-length relationship

Packages used in this exercise:  
library(FSA)  
library(ggplot2)  
library(tidyr)  
library(dplyr)

1. Generate a vector of percentage of fish in 10mm length intervals using the “BluegillLM” data set from the FSAdata package.
2. Create a length frequency histogram of total length (tl column) using the “BluegillLM” data set from the FSAdata package. Hint: use the vector created in question 1 to determine range of breaks for the histogram
3. Create a frequency table of Bluegill PSD size groups using the “BluegillLM” data set from the FSAdata package.
4. Calculate the PSD-Q and PSD-P of Bluegill using the “BluegillLM” dataset from the FSAdata package.
5. Create a scatterplot of Bluegill total length (x-axis) and weight (y-axis) on the natural log scale using the “BluegillLM” data set from the FSAdata package.
6. Estimate coefficients of a weight-length model using the “BluegillLM” data set from the FSAdata package. Also determine the 95% confidence intervals for the intercept and slope.