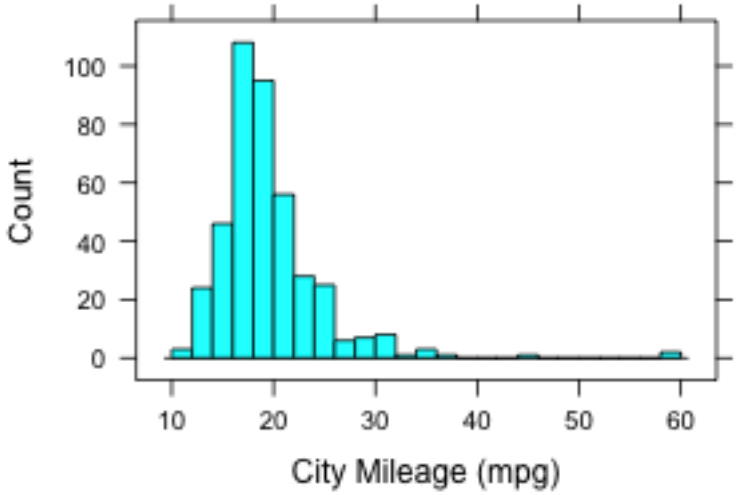
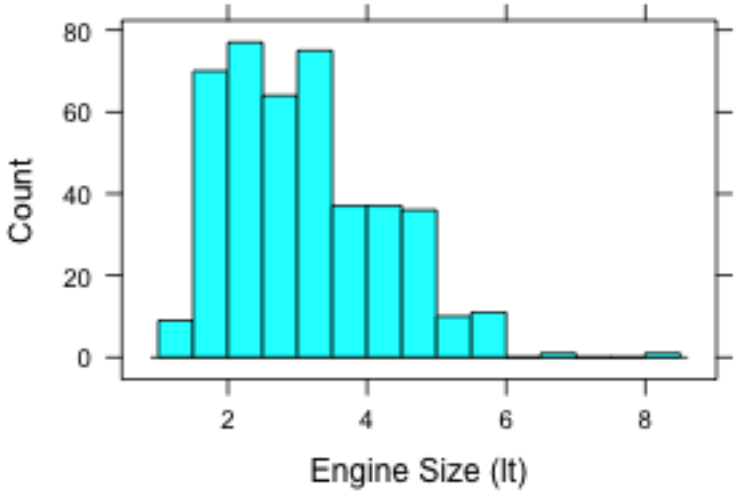
Applied Statistics HW 2

1. For each of the following histograms, describe the distribution, specifically focusing on the shape (modes, skewness) and the presence of outliers. Say a few words about the **reasons** for the presence of skewness and outliers, in the context of the particular data set under discussion. Describe a central/typical value, and how that value makes sense. Describe a range/spread, for the values, and how that makes sense.

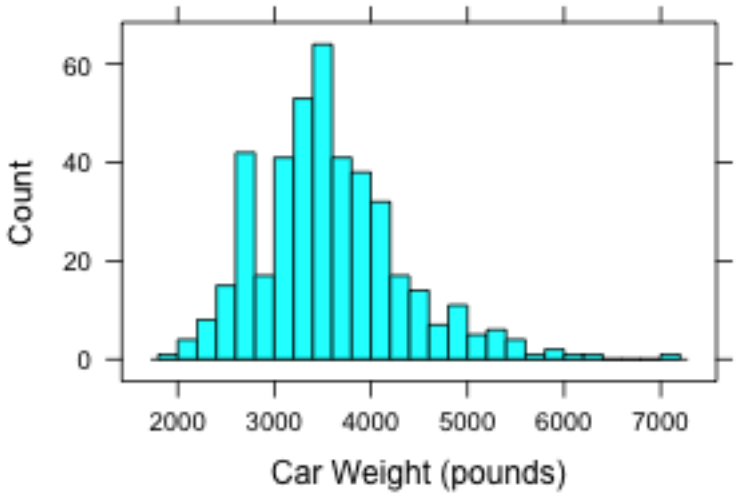
   a. City mileage for all 2004 car models.



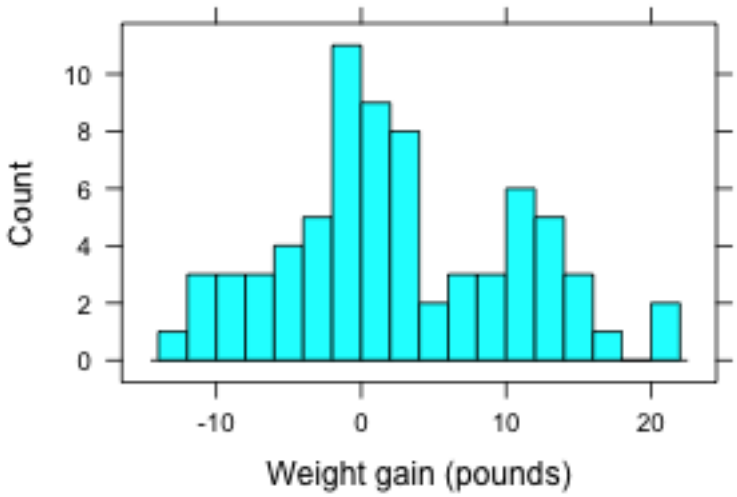
   b. Engine size for all 2004 car models.



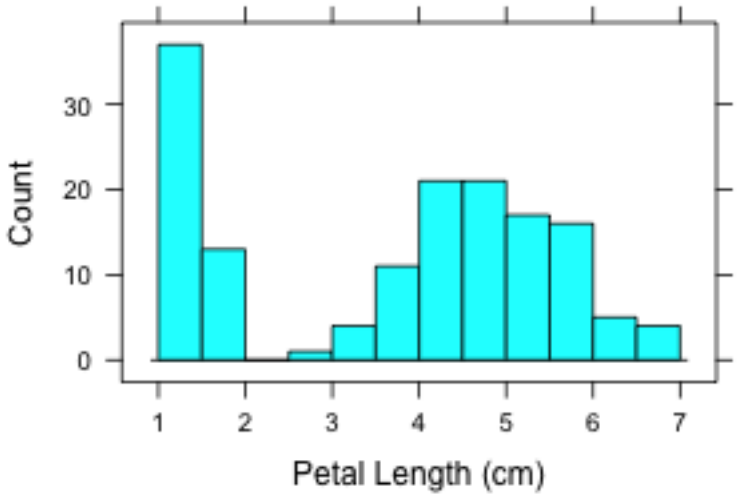
c. Weight for all 2004 car models.



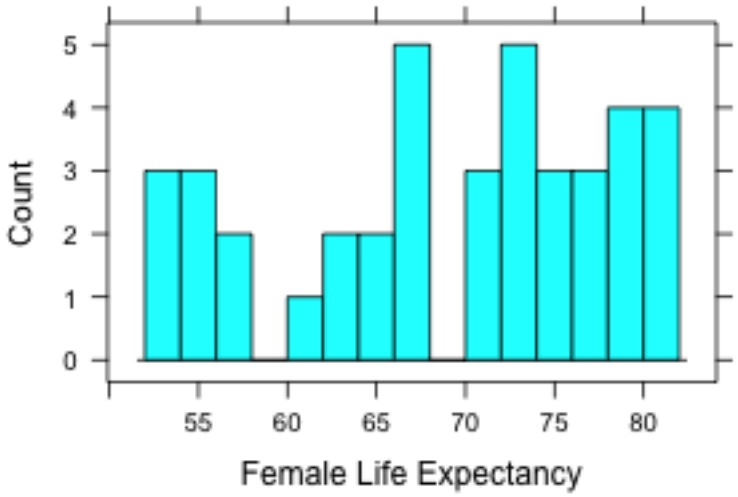
d. The weight gain in pounds on women who were treated for anorexia. There were three groups, each receiving a different treatment. You are seeing all the groups here.



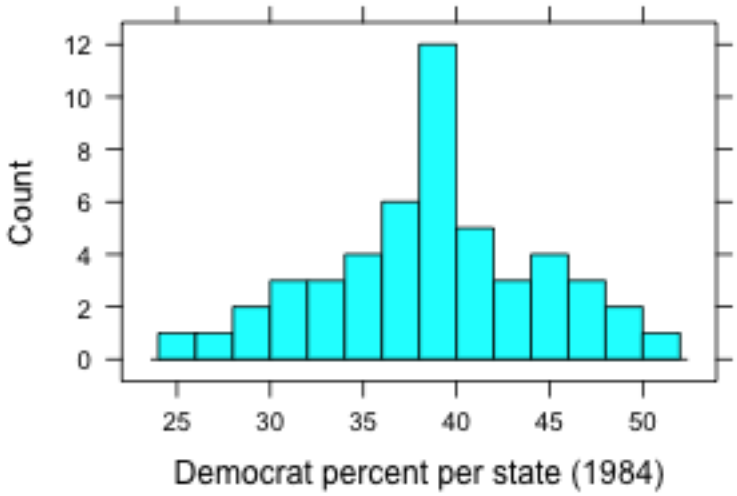
e. Petal lengths of samples from three different variety of irises. There were 150 samples altogether, 50 from each variety of iris.



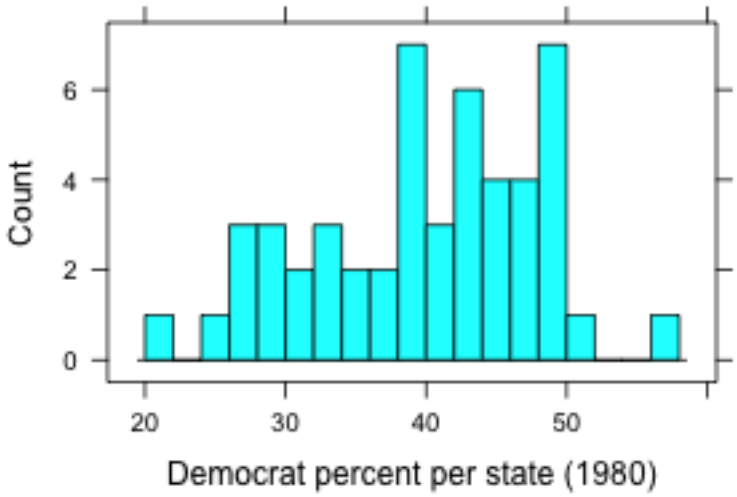
f. Female life expectancy in various countries.



g. Percent of votes Democrats gained on each state in the 1984 elections.



h. Percent of votes Democrats gained on each state in the 1980 elections. (Compare with previous graph. Might need to investigate who the candidates and their vice- president candidates were in both cases.)



2. For each of the previous examples, decide where the mean is in relation to the median (bigger, about the same, smaller).

3. In a challenging mathematical competition, all the students receive scores in the range from 0 to 20. The median score is reported to be 0. Explain what this would mean. What score do most students get?