

## Homework 2, Due F 01/26

Read Chapter 2 (Moore).

### Problems

1. This problem refers to the data attached with the homework.

a) Create a 5 point summary showing the **Minimum**; **First**, **Second** and **Third** quantiles; and the **Maximum** for year of birth of (i) the entire population, (ii) Boys and (iii) Girls. Show how you got them. Use the **1.5 IQR** rule to detect any outliers.

b) Create a 5 point summary showing the **Minimum**; **First**, **Second** and **Third** quantiles; and the **Maximum** age in years of (i) the entire population, (ii) Boys and (iii) Girls. Show how you got them. Use the **1.5 IQR** rule to detect any outliers.

c) Compute the **Mean** and **Standard Deviation** of the year of birth for (i) the entire population, (ii) Boys and (iii) Girls.

d) Compute the **Mean** and **Standard Deviation** of the age in years for (i) the entire population, (ii) Boys and (iii) Girls. How do the mean and median (second quartile) compare? What could be the reasons?

e) Use the results of part (c) to get those for (d). (Hint: How do you get your age from year of birth?) Do the answers match? Why/Why not?

f) What are the major differences in the distribution of ages of boys and girls? Do they display distinct distributions? Draw 2 histograms to illustrate your answer.

Suppose a new student aged 20 registers for MATH 160-003. What would you guess the student's sex to be? Give reasons for your answer.

2. Ex. 2.9, Page 50.

3. Ex. 2.10, Page 51.

4. Ex. 2.29, Page 58.

5. Ex. 2.42, Page 63.

6. Ex. 2.43, Page 63.

7. Ex. 2.46, Page 63.