**Exercise 1.1 page 11 Code and out put**

**Table

Description automatically generated** **Graphical user interface, text, application, email

Description automatically generated** Graphical user interface, text, application, email

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Description automatically generated Graphical user interface, text, application, email

Description automatically generated Shape

Description automatically generated Graphical user interface, text, application

Description automatically generated Table

Description automatically generated A picture containing text

Description automatically generated Graphical user interface, table

Description automatically generated with medium confidence Graphical user interface, text, application, email

Description automatically generated

**Exercise 1.2 page 11 Code and out put**

**Code**

**Text

Description automatically generated**

**Graphical user interface, text, application

Description automatically generated** **Graphical user interface, text, application, email

Description automatically generated**

**Output**

Snapshot of map Dictionary

Text, letter

Description automatically generated

Snapshot of the case id with the amount of pregnancy between the two data frames

Graphical user interface

Description automatically generated with low confidence

Snapshot of code that states all tests passed in the main definition



**Exercise 2.1 page 25**

**Based on the results in this chapter, suppose you were asked to summarize what you learned about whether first babies arrive late**

**Which Summary statistics would you use if you wanted to get a story on the evening news? Which ones would you use if you wanted to reassure an anxious patient?**

The summary statistic I would use to get a story on the evening news would be to use the summary statistic of the mean as this is the most common summary statistic and is meant to describe the central tendency of the distribution. Which means the mean will tell the viewers what the most common output is from the summary statistics we analyzed. While a summary statistic I would use to reassure an anxious patient would be to use the variance to check the results to assure the patient as the variance is a summary statistic that is intended to describe the variability or spread of a distribution.

**Do first babies arrive late? Write a paragraph that uses the results in this chapter to answer the question clearly, precisely, and honestly.**

After reading chapter two I can say that I do not believe that the first baby will arrive late as seen in my findings below from this chapter. As seen in the histogram of the pregnancy length we see that the most common value is 39 weeks with the left tail being a little longer than the right meaning there is more earlier babies as seen in the Histogram below. Chart, histogram

Description automatically generated

Next I viewed the Histogram for the mothers age at the end of the pregnancy as the mode of this histogram is 21 years old with a bell shaped distribution as seen below with the tail extending further to the right than the left with most mothers in their 20s instead of in their 30s.

**Chart, histogram

Description automatically generated**

Now we can view a histogram that compares the pregnancy length for first born babies and the others as seen below. As we can see that the other pregnancies is a little higher but this is due to the fact that the sample sizes are different as the sample size for other births is higher.

Chart, histogram

Description automatically generated

While the findings in the variance have shown me that for all live births the mean pregnancy length is 38.6 weeks with a standard deviation of 2.7 weeks which means all pregnancies are around 38.6 weeks long with two to three weeks to the left or to the right. While the effect size shows the clear difference as the mean pregnancy length for first babies is 38.601 weeks while other babies is 38.523 weeks meaning that the difference is 0.078 weeks which is 13 hours being a 0.2% difference. Meaning that if any baby was to be early it would be other babies as they are shown to be earlier even though it is a small difference it is still a difference.

**Exercise 2.4 page 25 Code and out put**

**Graphical user interface, text, application, email

Description automatically generated** **Chart

Description automatically generated** Chart, bar chart

Description automatically generated Chart

Description automatically generated Graphical user interface, application

Description automatically generated with medium confidence Graphical user interface, text, application

Description automatically generated Chart

Description automatically generated Text

Description automatically generated