

Lilly Leiran

MATH 1040

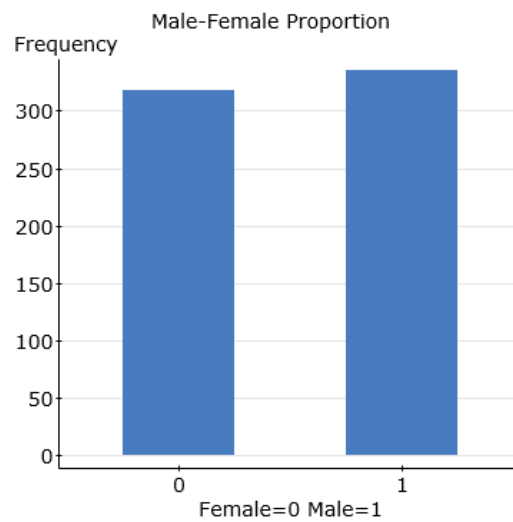
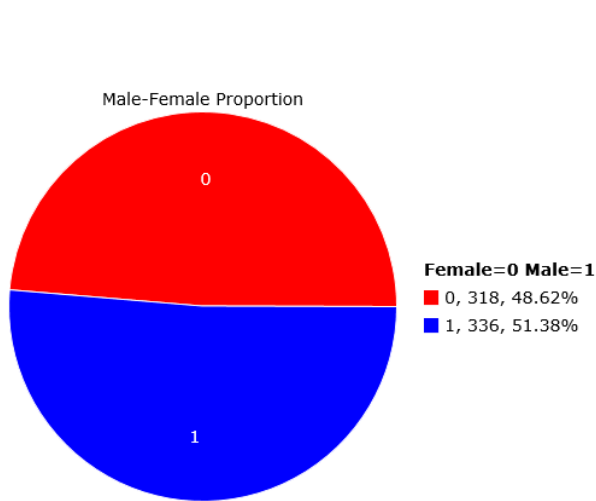
## Part 1

We chose the exhale set of data to use for the term project, our samples were chosen by Simple Random Sample and Systematic Sample the following project will demonstrate statistics skills with this set of data.

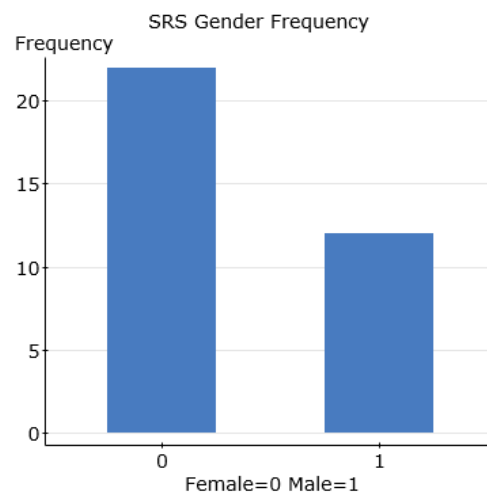
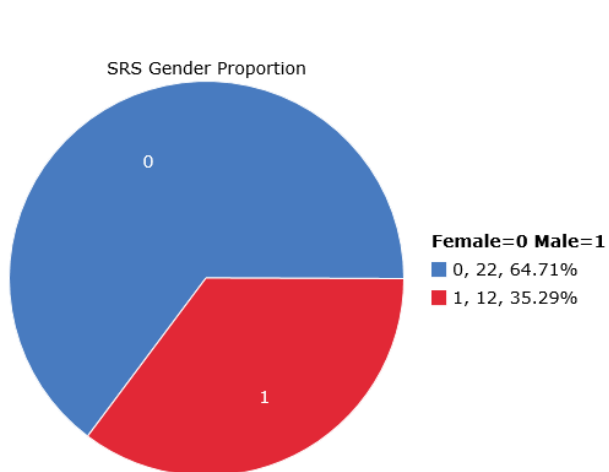
## Part 2

Gender

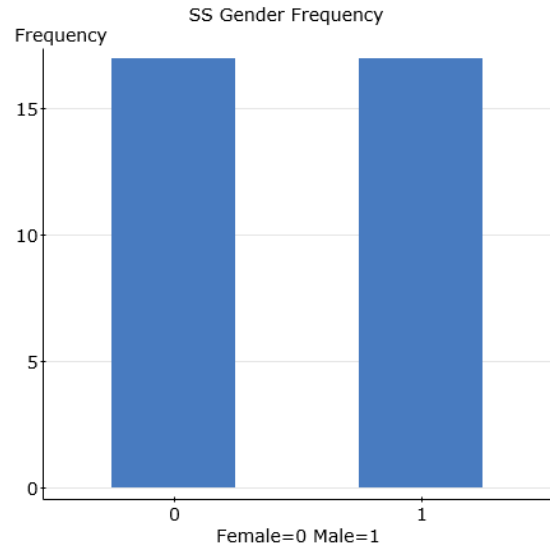
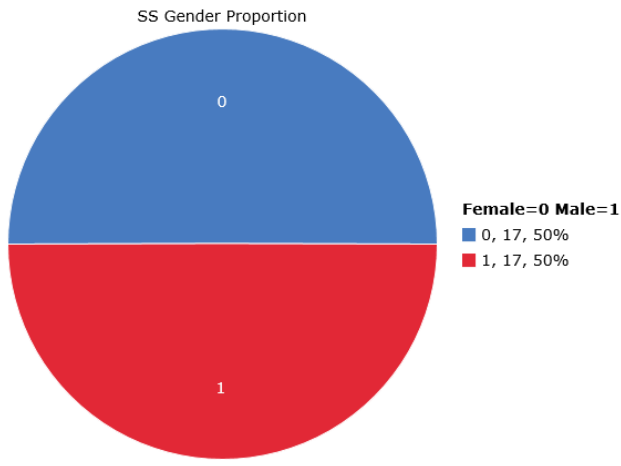
*Population*



*Simple Random Sample*

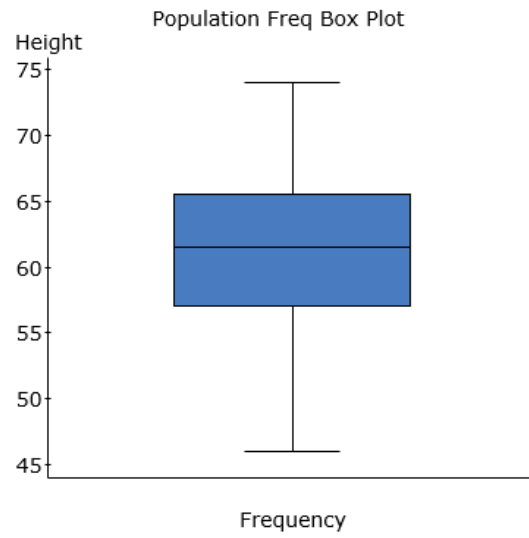
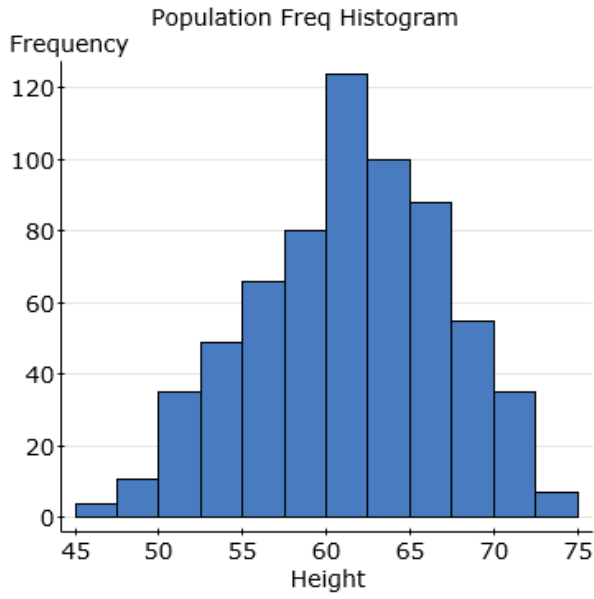


Systematic Sample

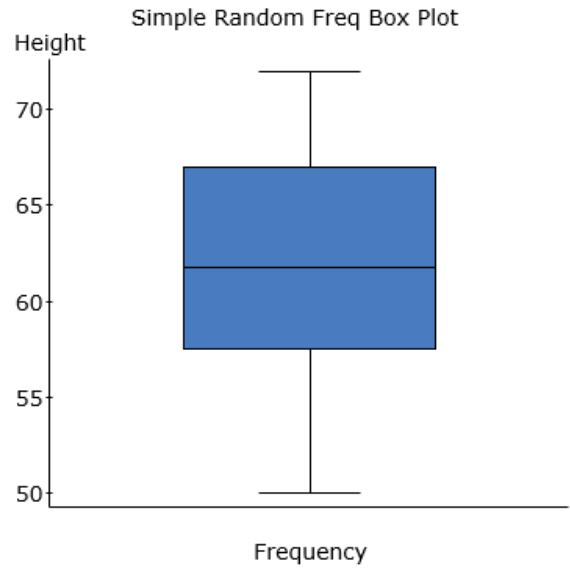
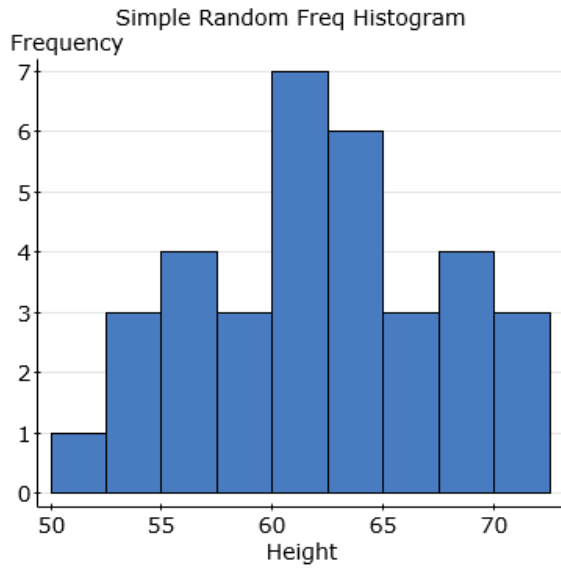


Part 3

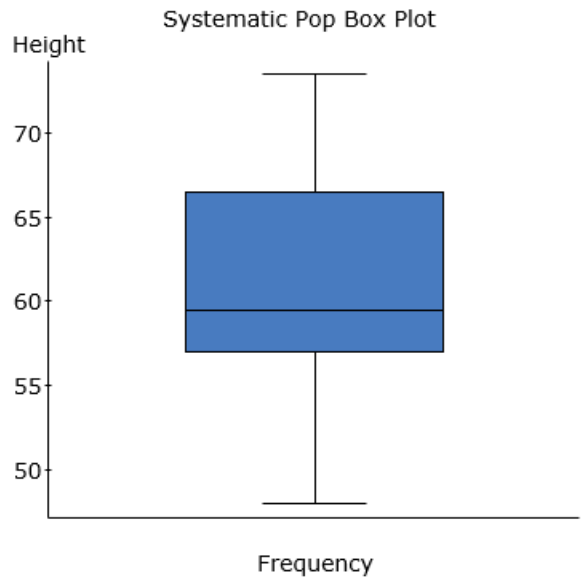
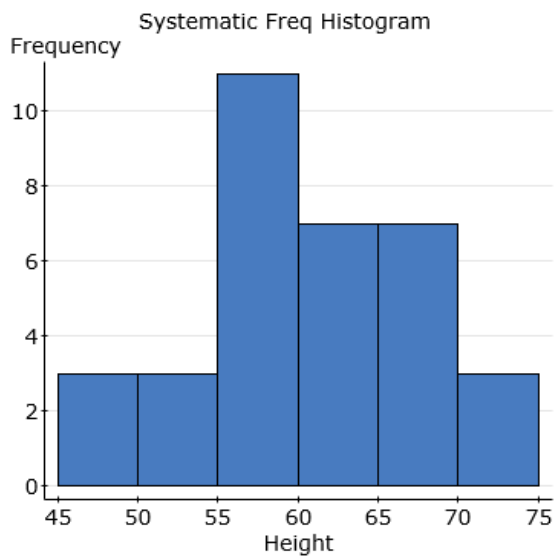
Population



### Simple Random Sample



### Systematic Sample



## Part 4

### Simple Random Sample

$$E = 1.96 * \text{square root of } (0.647 * 0.353 / 34)$$

$$E = 0.16064 \quad 95\% \text{ confidence (alfa) = 0.05}$$

$$0.48636 < P < 0.80764$$

*Systematic Sample*

$$E=2.575*\text{square root of } (0.5*0.5/34)$$

$$E=0.2208 \quad 99\% \text{ confidence (alfa) = 0.01}$$

$$0.2792 < P < 0.7208$$

**Part 5**

*Simple Random Sample*

Significance level = 0.05

Null Hypothesis:  $p=0.4862$

Alternative Hypothesis:  $p(\text{does not})=0.4862$

$$\frac{.647-.4862}{\text{square root of } (0.4862*.5137)}$$

$$Z= \frac{.647-.4862}{\text{square root of } (0.4862*.5137)}$$

$$34$$

$$P\text{-value} = 0.0301$$

Since 0.0301 is less than 0.0500 we reject the null hypothesis.

According to the data there is not sufficient evidence to state that the population proportion is 0.4862.

This sample's data led me to make a type two error seeing as the population proportion IS 0.4862.

Null Hypothesis:  $M=61.145$

Alternative Hypothesis:  $M(\text{does not})=61.145$

$$\frac{61.603-61.145}{\text{square root of } (0.20)}$$

$$t = \frac{61.603-61.145}{\text{square root of } (0.20)}$$

$$\text{square root of } 34$$

$$P\text{-value} < 0.20$$

Null Hypothesis:  $M=61.145$

Alternative Hypothesis:  $M(\text{does not})=61.145$

$$\frac{60.441-61.145}{\sqrt{34}}$$

t= 6.602

(square root of) 34

P-value<0.20