Rubric for Inference

This is the R Markdown outline for running inference. For convenience, both the rubric for inference with simulation and inference with a sampling distribution model are included. Following these is the rubric for confidence intervals.

Rubric for inference with simulation:

Exploratory data analysis

Use data documentaton (help files, code books, Google, etc.), the str command, and other summary functions to understand the data.

```
## Add code here to understand the data.
```

Prepare the data for analysis. [Not always necessary.]

```
## Add code here to prepare the data for analysis.
```

Make tables or plots to explore data visually.

```
## Add code here to make tables or plots.
```

Hypotheses

Identify the sample (or samples) and a reasonable population (or populations) of interest.

Please write up your answer here.

Express the null and alternative hypotheses as contextually meaningful full sentences.

H_0 : Null hypothesis goes here.

H_A : Alternative hypothesis goes here.

Express the null and alternative hypotheses in symbols.

$H_0 : math$

$H_A : math$

Model

Check the relevant conditions to ensure that the assumptions are met.

Please write up your answer here.

Mechanics

Compute the test statistic.

```
## Add code here to compute the test statistic.
```

Plot simulated values of the null distribution.

```
## Add code here to plot simulated values of the null distribution.
```

Calculate the P-value.

```
## Add code here to calculate the P-value.
```

Conclusion

State the statistical conclusion.

Please write up your answer here.

State (but do not overstate) a contextually meaningful conclusion.

Please write up your answer here.

Identify the possibility of either a Type I or Type II error and state what making such an error means in the context of the hypotheses.

Please write up your answer here.

Rubric for inference with a sampling distribution model:

Exploratory data analysis

Use data documentaton (help files, code books, Google, etc.), the str command, and other summary functions to understand the data.

```
## Add code here to understand the data.
```

Prepare the data for analysis. [Not always necessary.]

```
## Add code here to prepare the data for analysis.
```

Make tables or plots to explore data visually.

```
## Add code here to make tables or plots.
```

Hypotheses

Identify the sample (or samples) and a reasonable population (or populations) of interest.

Please write up your answer here.

Express the null and alternative hypotheses as contextually meaningful full sentences.

H_0: Null hypothesis goes here.

H_A: Alternative hypothesis goes here.

Express the null and alternative hypotheses in symbols.

$H_0 : math$

$H_A : math$

Model

Check the relevant conditions to ensure that the assumptions are met.

Please write up your answer here.

(Some conditions may also require R code chunks to check.)

Mechanics

Compute the test statistic.

```
## Add code here to compute the test statistic.
```

Plot the null distribution.

```
## Add code here to plot the null distribution.
```

Calculate the P-value.

```
## Add code here to calculate the P-value.
```

Conclusion

State the statistical conclusion.

Please write up your answer here.

State (but do not overstate) a contextually meaningful conclusion.

Please write up your answer here.

Identify the possibility of either a Type I or Type II error and state what making such an error means in the context of the hypotheses.

Please write up your answer here.

Confidence interval

Conditions

Please write up your answer here.

Calculation

```
## Add code here to calculate the confidence interval.
```

Conclusion

Please write up your answer here.