

Data Analysis In-Class Worksheet #05: Team Project TP01

Which of the following do you need to include in the TP01 submission?

- ☐ Hypotheses
- ☐ Executive Summary
- ☒ **Topic Questions**

Predictive vs. Prescriptive Topic Question

Which of the following statements is true?

- ☐ Predictive topic questions must include IVs, whereas prescriptive topic questions do not.
- ☒ **Predictive questions must include the verb predict, whereas prescriptive questions can include a verb from a list of potential choice words.**
- ☐ Prescriptive questions must include the verb *prescribe*, whereas predictive questions can include a verb from a list of potential choice words.

Topic question vs. hypothesis

Which of the following statements is true?

- ☐ Topic questions must be factual statements, whereas hypotheses must end with question marks.
- ☒ **Hypotheses must be statements, whereas topic questions must end with question marks.**
- ☐ Topic questions must start with an Independent Variable, whereas hypotheses must start with the word *what*.
- ☐ One must specify specific Independent Variable(s) in a topic question.

The Tiger Team wants to know what influences real estate prices in the Williamsburg area. Help them outline these key elements of this topic:

State their topic question:

What factors drive/impact/explain/influence/affect real estate prices in the Williamsburg area?

This is a ☐ descriptive ☒ **prescriptive** ☐ predictive topic question.

Propose one hypothesis based on this topic question:

**Distance from William & Mary campus affects real estate prices.
Historical significance of the area impacts real estate prices.**

Access to community offerings influences real estate prices.
Age of the property affects real estate prices.

Their Dependent Variable (DV) is ____ real estate prices ____.

It is ☒ numeric ☐ categorical.

Their Independent Variable (IV) is __ Distance (Numeric), Historical significance (Categorical), _ Access to community offerings (Categorical), _ Age of the property (numeric) ____.

The DV should be present in ____.

- ☐ the topic question not the hypothesis
- ☐ the hypothesis not the topic question
- both the topic question and the hypothesis

The IV should be present in ____.

- ☐ the topic question not the hypothesis
- the hypothesis not the topic question
- ☐ both the topic question and the hypothesis

The Honeybee Team wants to know what predicts the stock price of Nvidia. Help them outline these key elements of this topic:

State their topic question:

What factor(s) predict the stock price of Nvidia?

This is a ☐ descriptive ☐ prescriptive ☒ predictive topic question.

Propose one hypothesis based on this topic question:

Nvidia's earnings-per-share (EPS) positively predicts its stock price.
Global demand for AI chips positively predicts Nvidia's stock price.
Nvidia's net income positively predicts its stock price.
Nvidia's R&D expenditure positively predicts its stock price.

Their Dependent Variable (DV) is ____ Nvidia's stock price ____.

It is ☒ numeric ☐ categorical.

Their Independent Variable (IV) is Earnings-per-share (EPS), global demand for AI chips, net income, R&D expenditure ____.

It is ☒ numeric ☐ categorical.

Practice writing a predictive topic question:

What factors predict Nvidia's stock price?_____

Practice writing a hypothesis for the above topic question:

Nvidia's earnings-per-share (EPS) positively predicts its stock price.

Practice writing a prescriptive topic question:

What factors influence Nvidia's stock price?