Linear Regression for Business Statistics

Overview of Regression

1. Modeling — *Developing a regression model*
2. Estimation — *Using software to estimate the model*
3. Inference — *Interpreting the estimated regression model*
4. **Prediction** — ***Making predictions about the variable of interest***

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4. **Prediction** *Making predictions about the variable of interest*

For the coming six months, company management is considering three alternative scenarios for selling this particular toy.

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4. Prediction *Making predictions about the variable of interest*

For the coming six months, company management is considering three alternative scenarios for selling this particular toy.

Scenario 1: ***Price*** **= 9.10$,** ***AdExp*** **= 52,000$,** ***PromExp*** **= 61,000$**

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4. Prediction *Making predictions about the variable of interest*

For the coming six months, company management is considering three alternative scenarios for selling this particular toy.

Scenario 1: ***Price*** **= 9.10$,** ***AdExp*** **= 52,000$,** ***PromExp*** **= 61,000$**

Scenario 2: ***Price*** **= 7.10$,** ***AdExp*** **= 48,000$,** ***PromExp*** **= 57,000$**

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4. **Prediction** *Making predictions about the variable of interest*

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Scenario 2: ***Price*** **= 7.10$,** ***AdExp*** **= 48,000$,** ***PromExp*** **= 57,000$**

Scenario 3: ***Price*** **= 8.10$,** ***AdExp*** **= 50,000$,** ***PromExp*** **= 60,000$**

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4. **Prediction** *Making predictions about the variable of interest*

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Which scenario to implement to maximize unit sales?

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4. **Prediction** *Making predictions about the variable of interest*

Scenario 1: ***Price*** = 9.10$, ***AdExp*** = 52,000$, ***PromExp*** = 61,000$

Predicted Sales = 72587.31

Scenario 2: ***Price*** = 7.10$, ***AdExp*** = 48,000$, ***PromExp*** = 57,000$

Predicted Sales = 72892.96

✓ **Scenario 3:** ***Price*** = 8.10$, ***AdExp*** = 50,000$, ***PromExp*** = 60,000$

Predicted Sales = 74542.75 ≈ 74542

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