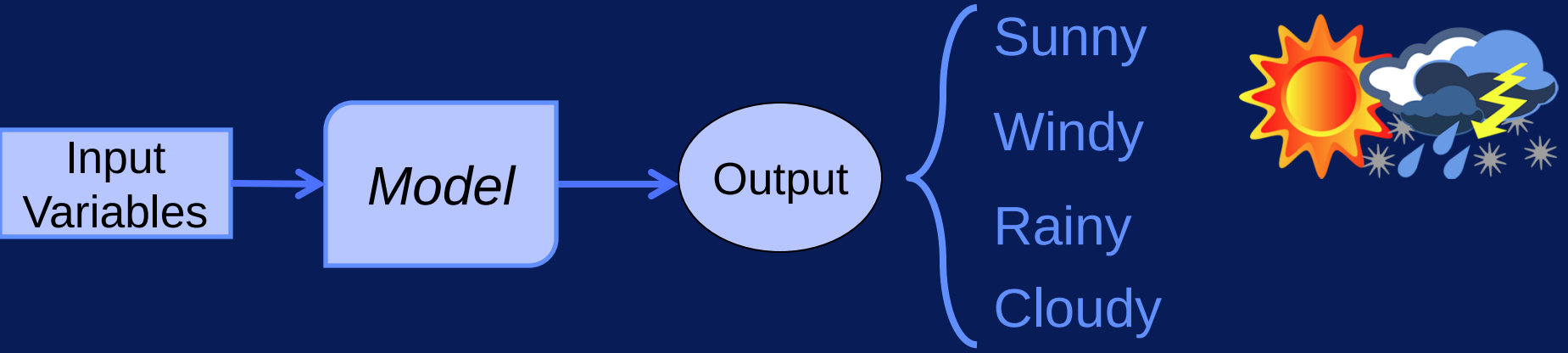
Regression

After this video you will be able to..

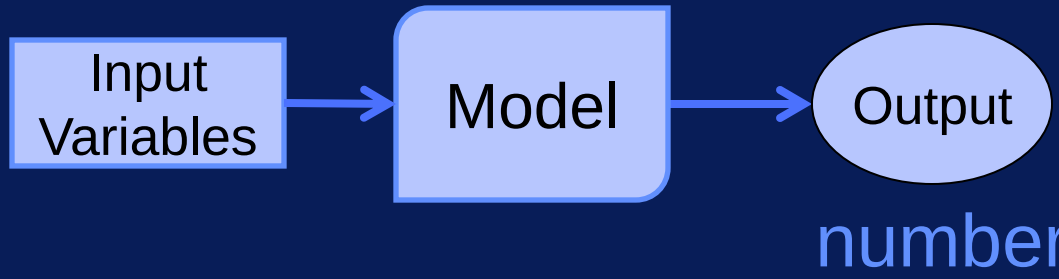
- Define what regression is
- Explain the difference between regression and classification
- Name some applications of regression

Classification Review



Classification:
Given input variables,
predict category

Regression



Regression:
Given input variables,
predict numeric value

Regression Examples

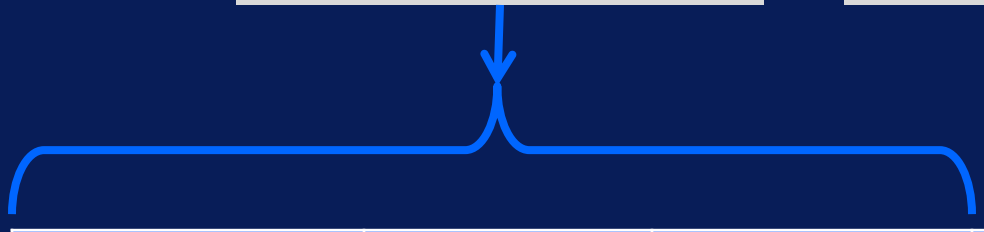
- **Forecast** high temperature for next day
- **Estimate** average house price for a region
- **Determine** demand for a new product
- **Predict** power usage

Regression is Supervised

Input Variables

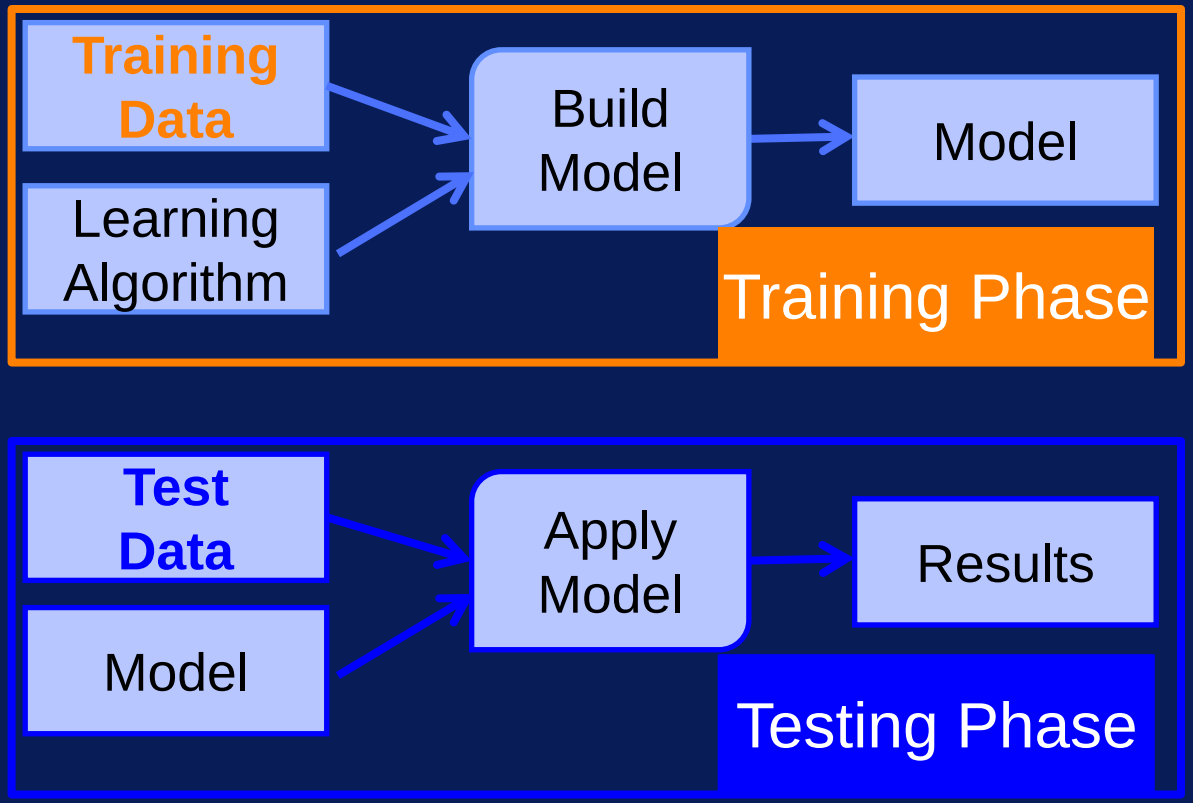
Target Variable

Target is provided



Today's High	Today's Low	Month	Tomorrow's High
79	64	July	81
60	45	October	58
68	49	May	65
57	47	January	54

Training vs. Testing Phases



Datasets

Training Data	Validation Data	Test Data
Adjust model parameters	Determine when to stop training (avoid overfitting) Estimate generalization performance	Evaluate performance on new data

Regression Main Points

- Predict number from input variables
- Regression is a supervised task
- Target variable is numerical