Linear Regression

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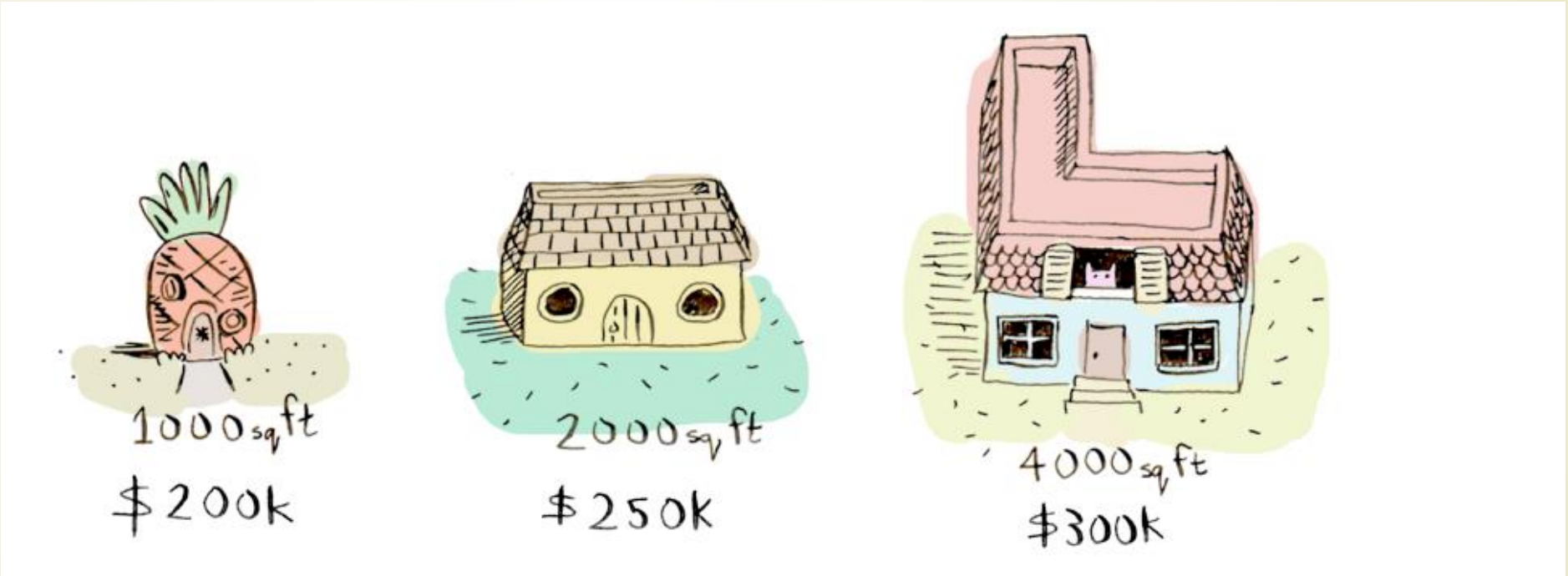
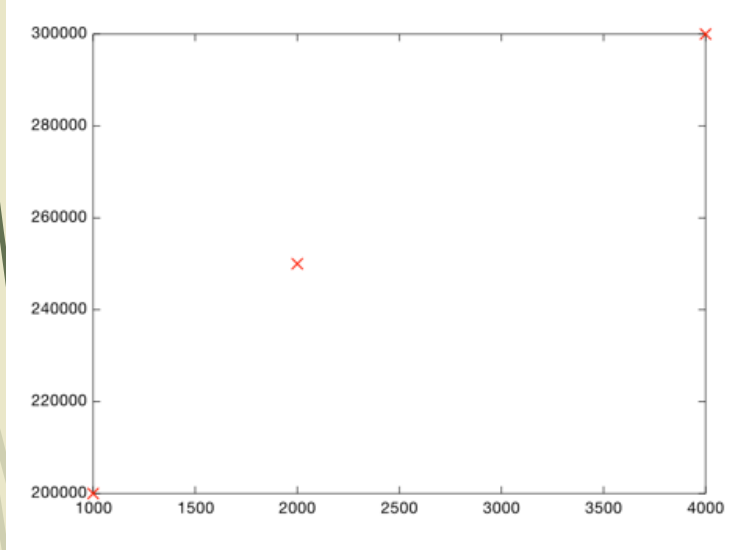
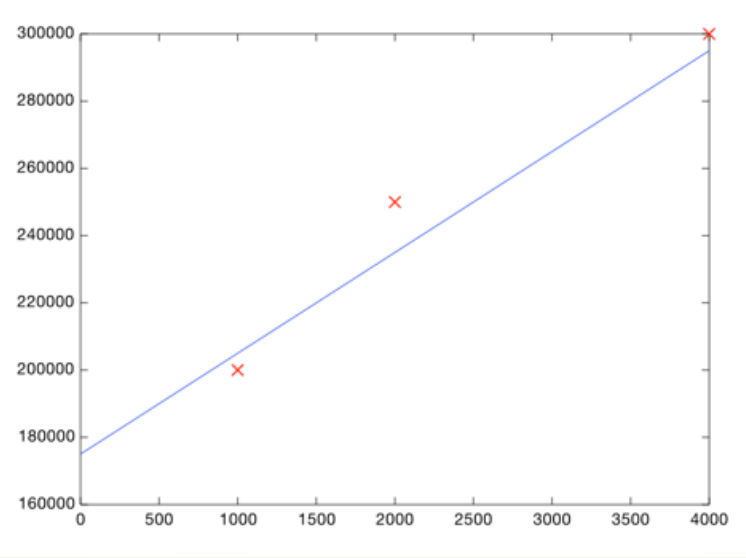
What is Linear Regression ?

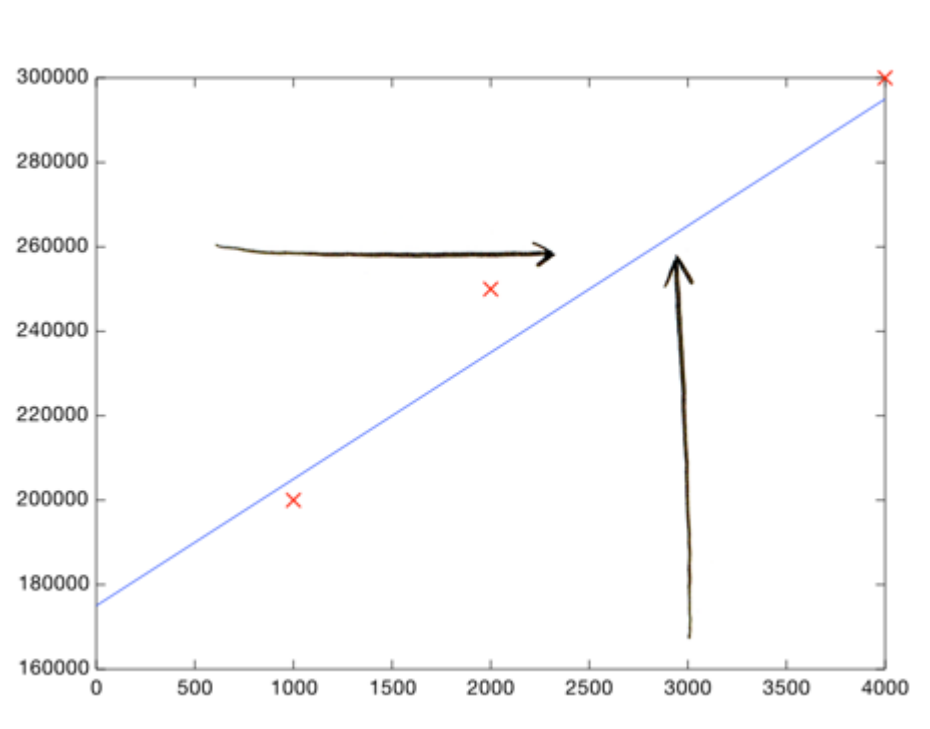
Suppose we are selling our house/property



But your house size is 3000 SqFt

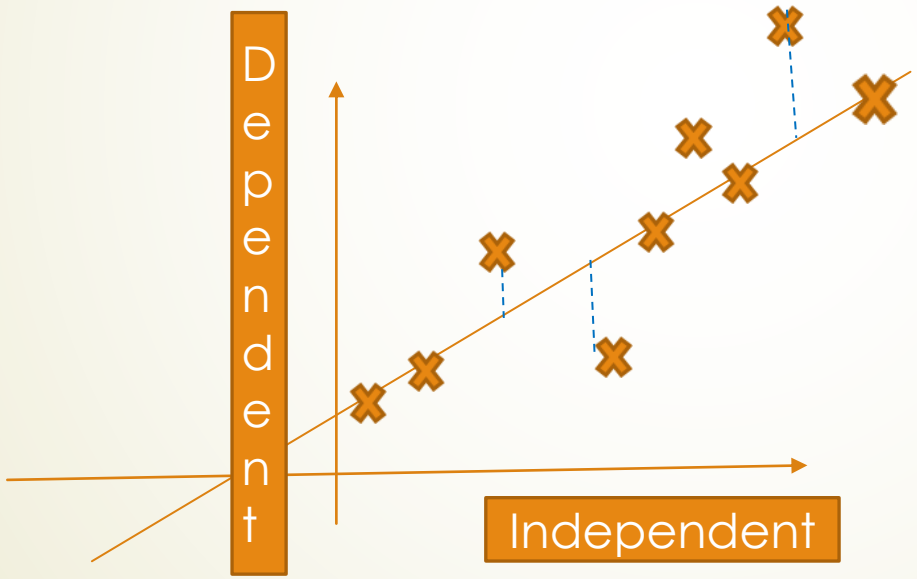






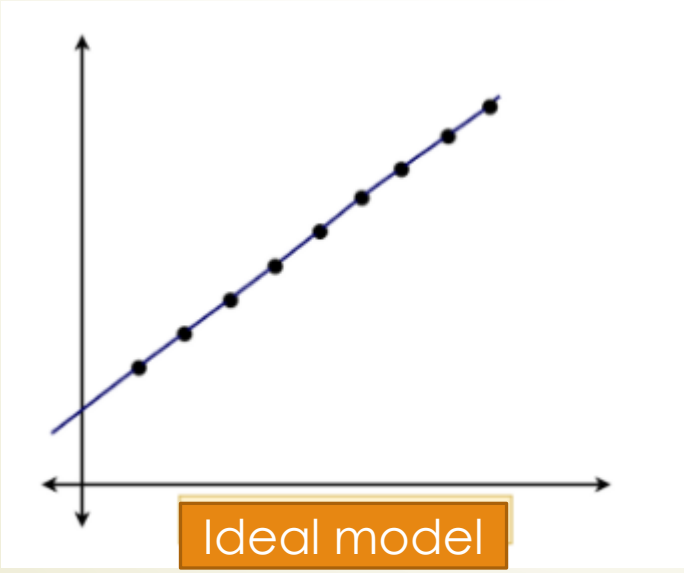
What is Linear Regression ?

- Supervised learning model
- Aims to fit a line which best fits the model and thus used for regression datasets
- Eg: Predicting the price of the house, forecasting



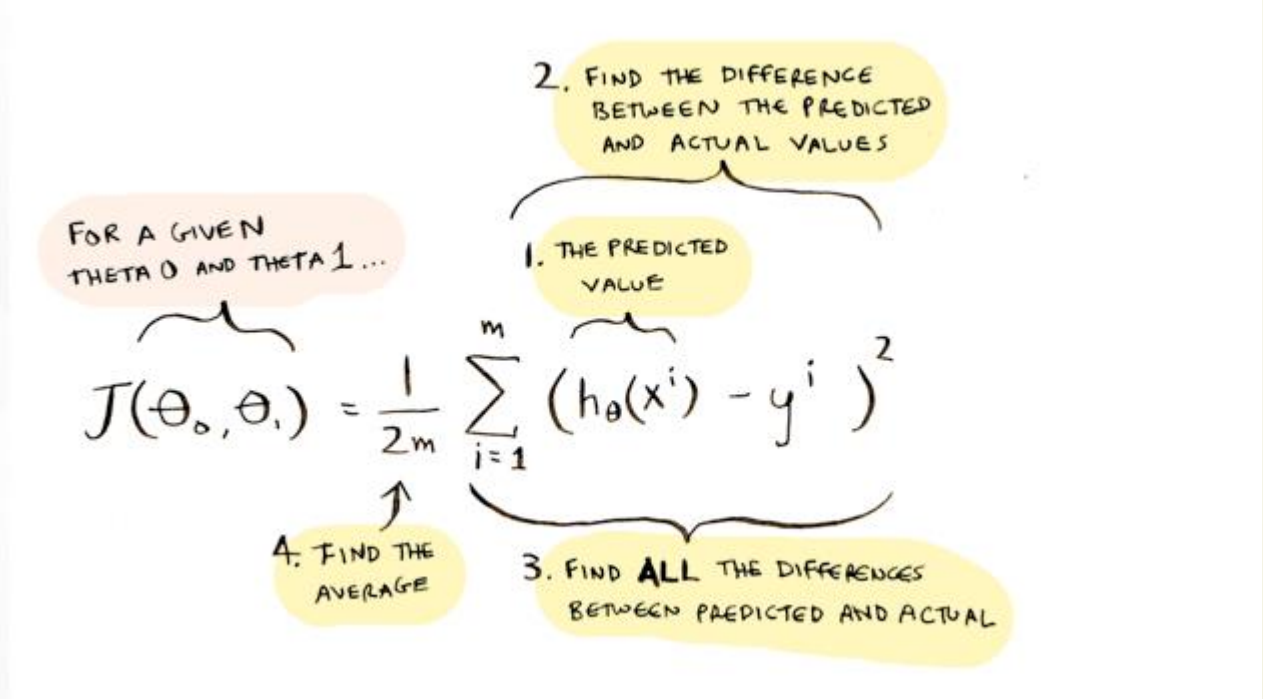
Working

- Best fit line means that total distance of a data point from the linear model should be minimal.
- Distance= Error
- Straight line equation : **Y=mX+C**
- **X=**Independent variable **Y=**Dependent variable **m=**Slope of the line
  C= Y intercept



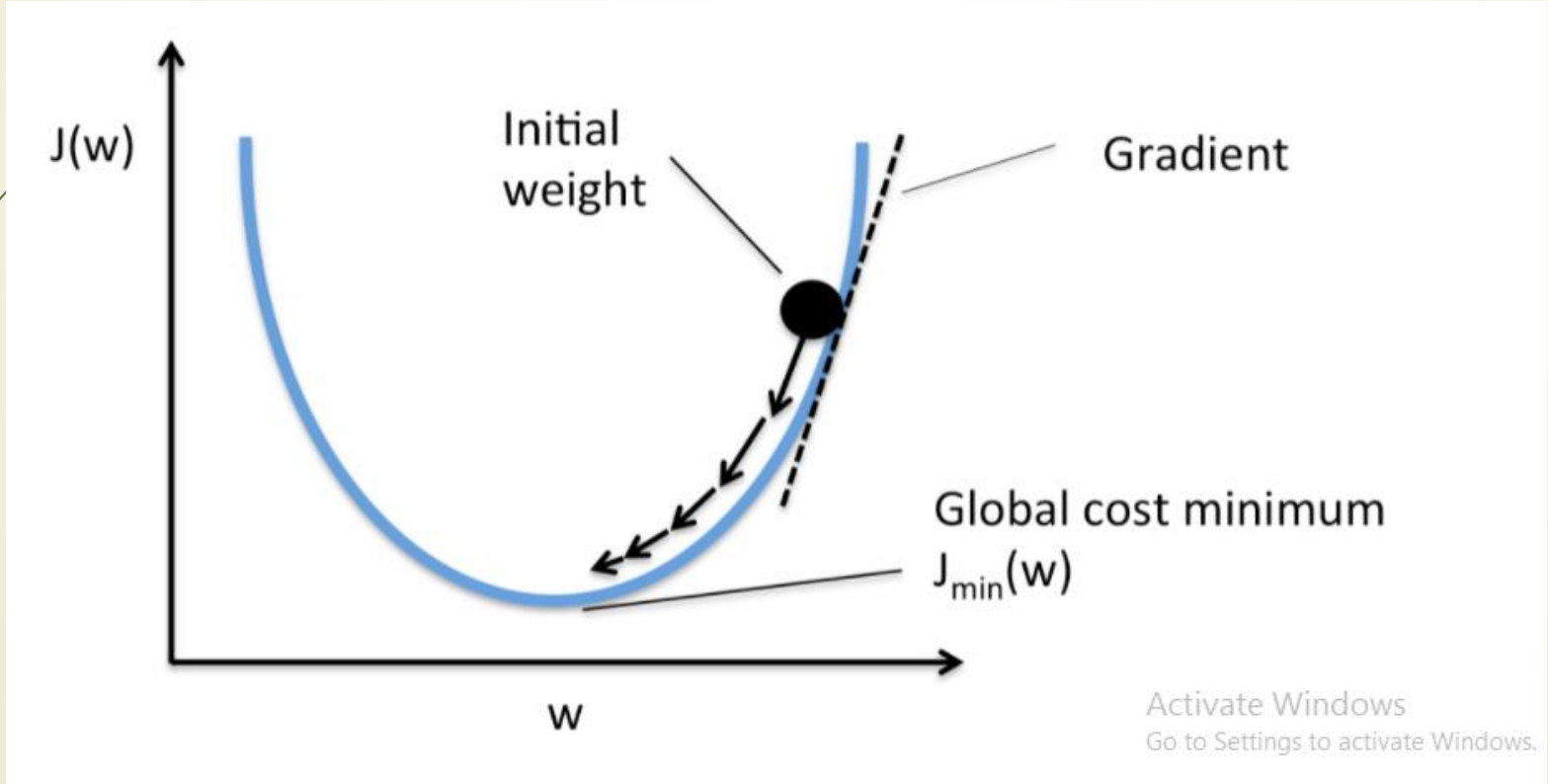
Cost Function:

- Determines how the model is working.
- Simply it's sum of all the errors.



Gradient Descent

- Helps in minimizing the cost function



Applications:

- Financial Forecasting
- House Rent prediction
- Weather forecasting