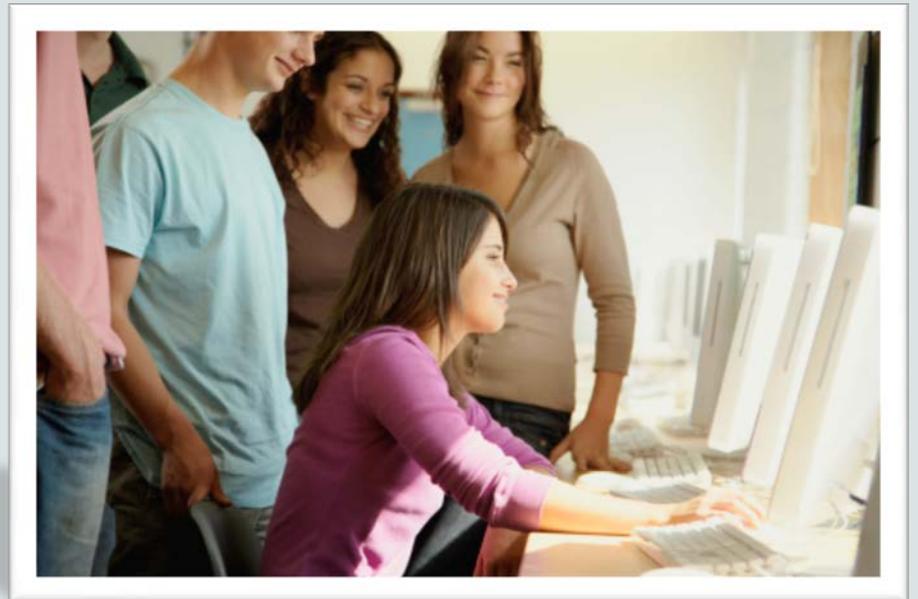




Database Design

8-3

Modeling Change: Price



Objectives

This lesson covers the following objectives:

- Solve the business requirement of tracking changes in price or values by constructing a model that uses a historical entity
- Describe the meaning of journaling/logging
- Identify the business need for journaling/logging and construct a model that addresses this requirement

Purpose

- Historical prices are important when looking for trends, determining the appreciation or depreciation value of items, or getting a refund for an item purchased in the past at a previous price.
- Many businesses track history of change -- who changed it, when it was changed, and so on.
- Example: if a student's grade is changed, it is useful to record when it was changed, the old grade, the new grade, and who changed it.

The Importance of Price Changes

- Changes in price are often an important consideration when modeling business requirements.
- Some examples would be:
 - The stock market: Prices are changing by the second and you are watching the reader board, wondering when to buy and when to sell. What factors would you consider?
 - The fuel industry: Why would you want to track the price changes in fuel if you are thinking of buying a car or heating your home during the winter?
 - Construction businesses: Why are price changes important to a contractor of a five-year bridge-construction project?

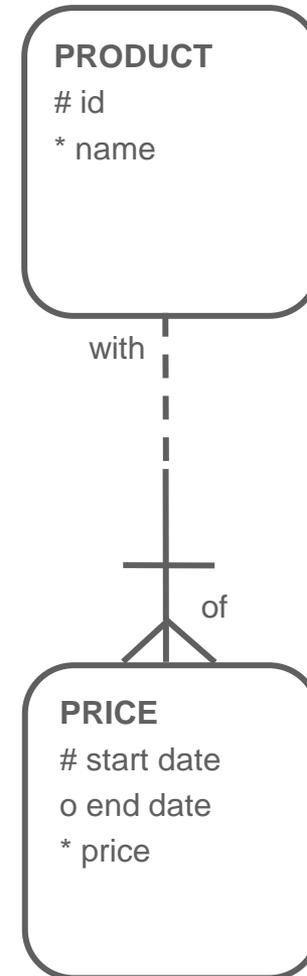
What's the Price Today?



- The prices of products change over time.
- Some go up, some go down, and others fluctuate up and down.
- Food, clothing and school fees are more expensive now than they were twenty years ago.
- Technology often gets cheaper over time.
- You can buy a standard specification laptop computer today for around half the price of ten years ago.
- Gold, silver and currency are examples of commodities whose prices fluctuate.

Model Historical Price

- It is often useful to have information on past prices.
- The model shown here tracks the historical price of a product.



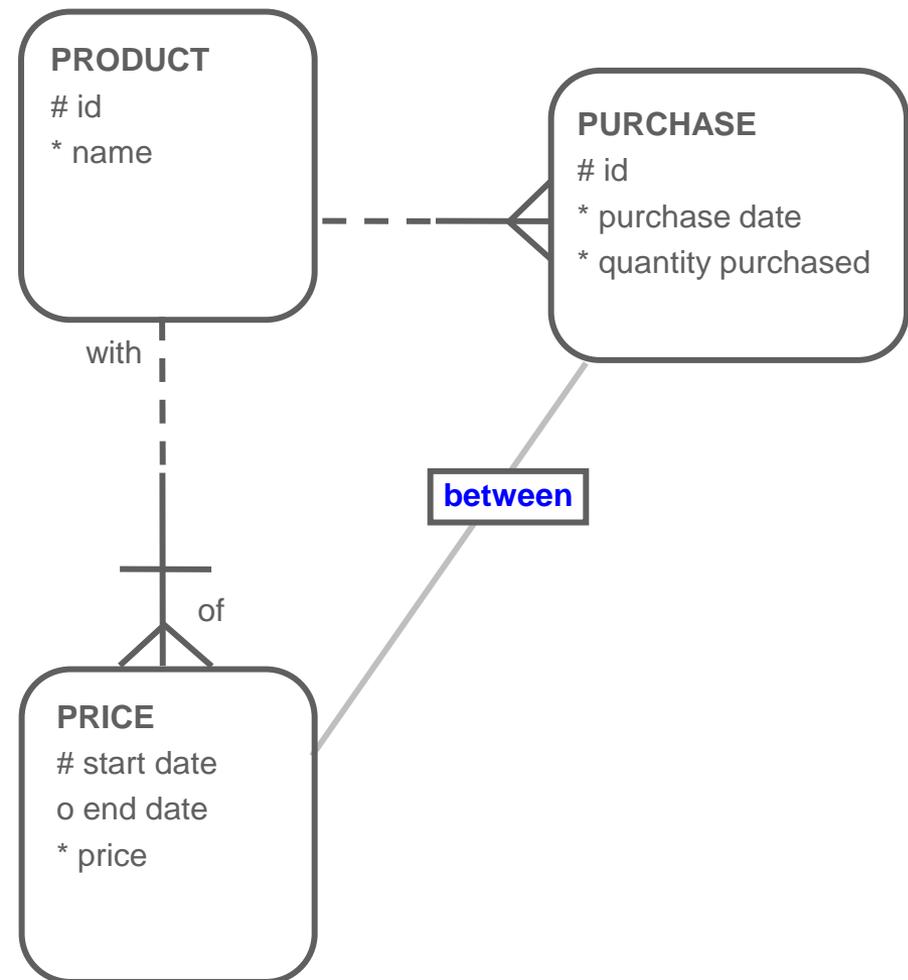
Historical Price Changes

- Consider what happens when you return an item to a store.
- You purchased the item at a certain price, but it has gone on sale since then.



Tracking Price Changes

- Businesses often need to keep a record of price changes.
- In this model, we assume that each PURCHASE is of only one product.
- The price that was paid can be found by matching the purchase date between the start date and the end date of PRICE.



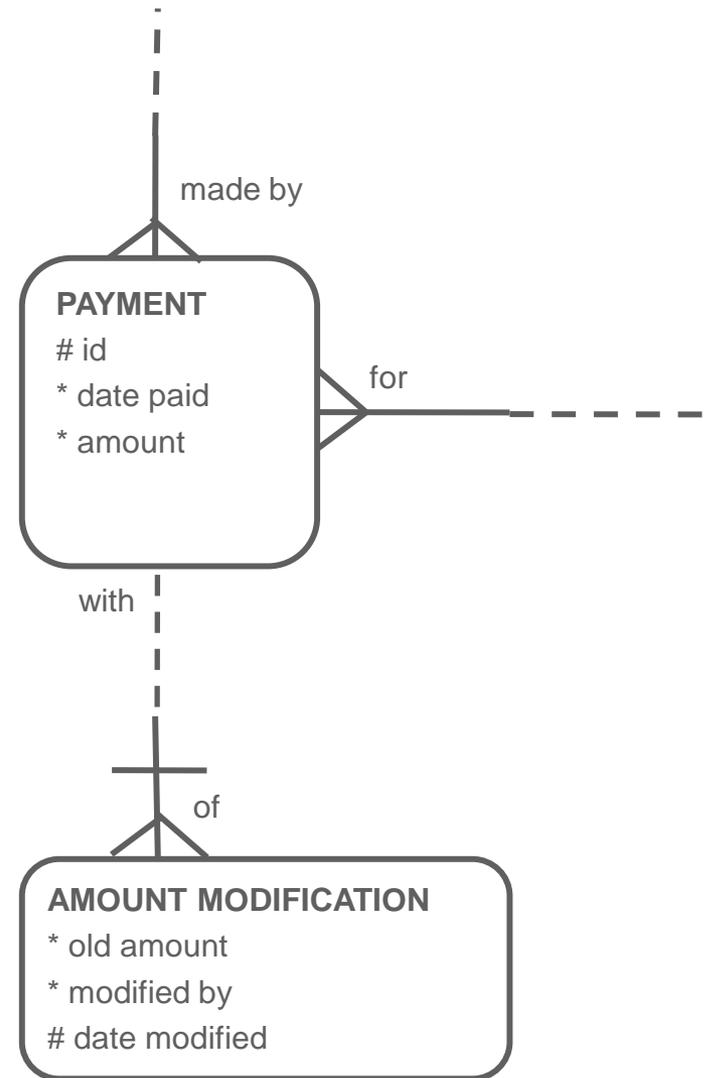
Other Data Changing Over Time

- We've seen that prices change over time.
- Other types of information can also change, for different business reasons.



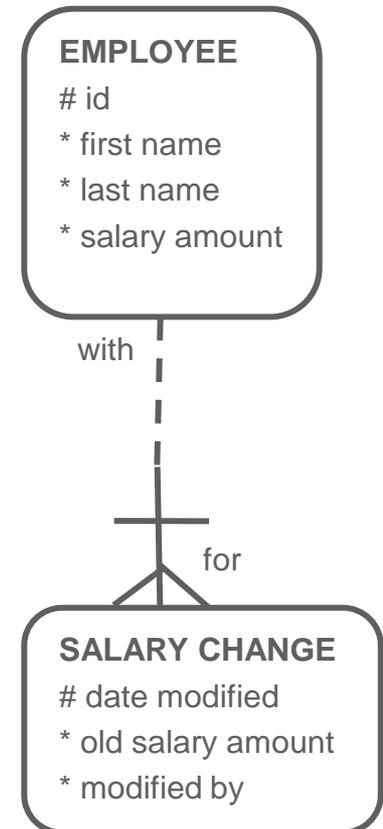
Journaling

- Whenever a system allows a user to modify or remove particular information, the question should be asked, “Do the old values need to be kept on record?”
- This is called "logging" or "journaling."
- This is often an issue when the information is financial or of a sensitive nature, such as a student grade change.



Journal Content

- A journal usually consists of both the modified value and the information about who did the modification and when it was done.
- This extra information can, of course, be expanded if you wish.



Terminology

Key terms used in this lesson included:

- Appreciation
- Depreciation
- Journaling and/or logging

Summary

In this lesson, you should have learned how to:

- Solve the business requirement of tracking changes in price or value by constructing a model that uses a historical entity
- Describe the meaning of journaling/logging
- Identify the business need for journaling/logging and construct a model that addresses this requirement

