Introduction to Association Rule Mining

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Introduction to Association Rules

- Substantial part of every E-Commerce and Supermarket

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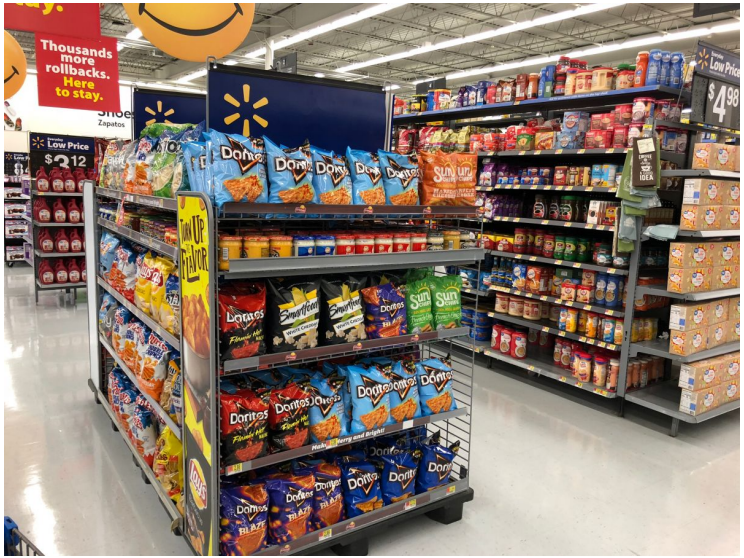
Introduction to Association Rules

- Supermarket & Market Basket Analysis



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Association Rule Mining: Formal Definition

- Commonly used for shopping behavior analysis
  - aims at detection of rules such as

    "If a customer purchases baby food then he also buys diapers in 70% of the cases"

Baby Food □ Diapers

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What is Association Rule Mining?

- Motivation: finding regularities in data
  - What products are often purchased together in a supermarket?
  - What are the subsequent purchases after buying a PC?
  - Is there a serious chance of Covid-19 patients to suffer a heart attack?
  - Do people who read news about Trump are also interested in NFL?

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Market Basket Analysis

- Retail organizations e.g. Supermarkets collect and store massive amounts of sales data called Basket Data

- A record consist of
  - Transaction date/ID
  - Items bought

Transaction 1	🍎 🍺 🏐 🍗
Transaction 2	🍎 🍺 🏐
Transaction 3	🍎 🍺
Transaction 4	🍎 🍐
Transaction 5	🍼 🍺 🏐 🍗
Transaction 6	🍼 🍺 🏐
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