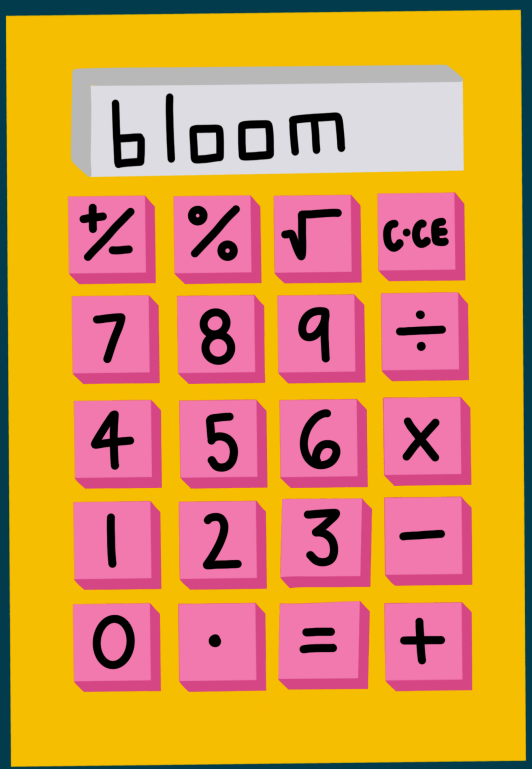
Factless Fact Table



No measurable facts

factless fact table

A factless fact table is a type of table in a data warehouse that doesn't contain any numeric or measurable facts. Unlike typical fact tables that store data like sales amounts or quantities, a factless fact table only records the events or relationships between different dimensions. It is used mainly to track events or map many-to-many relationships.

Example

Imagine you're managing a school, and you want to track which students attend which after-school clubs. You would have a few different tables:

1. Students Table: Contains details about the students.
2. Clubs Table: Contains details about the clubs.
3. Attendance Table: Tracks which students attend which clubs on which days.

Students Table

Student_ID	Student_Name	Grade
1	John Doe	5
2	Jane Smith	4
3	Alice Johnson	5

Club Table

Club_ID	Club_Name	Meeting_Day	Instructor
101	Robotics club	Monday	Mr. Anderson
102	Art club	Wednesday	Ms.white
103	Chess club	Friday	Ms.Green

Attendance Table

Student_ID	Club_ID	Attend_Date
1	101	2024-09-01
2	102	2024-09-05
1	103	2024-09-03
3	101	2024-09-01

Attendance Table is the factless fact table because it doesn't contain any numerical data (like counts or sums). Instead, it simply records that a student attended a particular club on a certain day.

Type of question factless fact can answer

School Example: Attendance Table

Questions the Attendance Table Can Answer:

1. **Which students attended the Robotics Club on September 1st?**

- You can query the table for Club_ID = 101 and Attend_Date = '2024-09-01' to see a list of Student_IDs, and then match them with the Students Table to get their names.

2. **How many different clubs did John Doe attend in September?**

- You would look up John Doe's Student_ID in the Attendance Table for the month of September and count the distinct Club_IDs.

3. **On which days did the Chess Club meet and how many students attended each meeting?**

- You could filter the Attendance Table by Club_ID = 103 and group by Attend_Date to count how many students attended on each date.

4. **Which clubs are most popular among 5th graders?**

- By joining the Students Table and the Attendance Table, you could filter for Grade = 5 and then group the results by Club_ID to see which clubs have the most attendance from 5th graders.

Business use case

Let's shift to a retail business example where you want to track customer visits to stores without recording sales data.

Customer Table

Customer_ID	Customer_Name	Loyalty_Level
201	Sarah Brown	Gold
202	Michael Lee	Silver
203	Emily Davis	Bronze

Store Table

Store_ID	Store_Name	Location
301	Downtown store	City center
302	Suburb store	Suburban Area
303	Mall store	Shopping mall

Customer _Visits Table (Factless fact table)

Customer_ID	Store_ID	Visit_Date
201	301	2024-09-01
202	302	2024-09-02
201	303	2024-09-03
203	301	2024-09-01

The Customer_Visits Table is the factless fact table. It doesn't contain any measurable facts like the amount spent. Instead, it simply records that a customer visited a store on a specific date.

Questions the customer _visits table can answer

1. **Which stores did Sarah Brown visit in August?**

- You would query the Customer_Visits Table for Customer_ID = 201 and look at the Store_IDs she visited during August.

2. **Which day had the highest customer traffic in the Downtown Store?**

- By filtering the Customer_Visits Table for Store_ID = 301 (Downtown Store) and grouping by Visit_Date, you can count the number of Customer_IDs for each date to find the day with the highest traffic.

3. **Which customers visited more than one store?**

- You would group the Customer_Visits Table by Customer_ID and count distinct Store_IDs. Customers with a count greater than 1 visited more than one store.

4. **What percentage of visits in August were made by Gold loyalty customers?**

- You can join the Customer_Visits Table with the Customer Table to filter for Loyalty_Level = 'Gold', and then divide the number of visits by Gold customers by the total number of visits in August.