Module ▮:
Data Organized and Stored

In this module you will:

1. Understand how data is stored and organized

2. Demonstrate how tables are databases for data to communicate

3. Construct a database

Module : Learning Objectives

1. Utilize tables to organize data and store data to create visualizations to interpret to meaning of the data

2. Construct a database by utilizing data that is stored and organized in various tables (e.g. pivot tables)

Organized Data

Data is usually organized in the forms of tables that are stored in file

Shape	Number of Edges	Equal Edge Lengths
Square	4	Yes
Triangle	3	No
Circle	0	N/A
Rectangle	4	No
Trapezoid	4	No
Pentagon	5	No

X

CSV

.TSV

What are tables? Are these examples?

Shape	Number of Edges	Equal Edge Lengths
Square	4	Yes
Triangle	3	No
Circle	0	N/A
Rectangle	4	No
Trapezoid	4	No
Pentagon	5	No

What are tables? Are these examples?

Shape	Number of Edges	Equal Edge Lengths
Square	4	Yes
Triangle	3	No
Circle	0	N/A
Rectangle	4	No
Trapezoid	4	No
Pentagon	5	No

What are tables? Are these examples?

Shape\tNumber of edges\tEqual edge lengths
Square\t4\tYes
Triangle\t3\tNo
Circle\t0\tNA
Rectangle\t4\tNo
Trapezoid\t4\tNo
Pentagon\t5\tNo

- Tables are can be constructed to be useful in storing and visualizing data
- Once tables are constructed, collectively they can be a database

Dataworks_Fellows

Fellow_first_name	Fellow_last_name	Email
Selam	Keder	selam.keder@gmail.com
Jadin	Butler	jadinbutler777@gmail.com
Emanuel	Bryant	bryantemanuel5@gmail.com

Dataworks_Contracts

Contractor	Cost
Business_1	$1B
Business_2	$3B
Business_3	$78B

Dataworks_Projects

Project_name	Project_for	Fellow_on_project
Project_1	Business_1	Jadin
Project_2	Business_2	Emanuel
Project_3	Business_3	Sadin

A database also contains methods for pulling data together from across different tables

Say you're one of the businesses DataWorks has a contract with, and you want the email of the Data Fellow that worked on your project. What information needs to be pulled from where?

Dataworks_Fellows

Fellow_first_name	Fellow_last_name	Email
Selam	Keder	selam.keder@gmail.com
Jadin	Butler	jadinbutler777@gmail.com
Emanuel	Bryant	bryantemanuel5@gmail.com

Dataworks_Contracts

Contractor	Cost
Business_1	$1B
Business_2	$3B
Business_3	$78B

Dataworks_Projects

Project_name	Project_for	Fellow_on_project
Project_1	Business_1	Jadin
Project_2	Business_2	Emanuel
Project_3	Business_3	Sadin

Activity: Make a Database

- Construct a database similar to the one on the previous slide. Each table doesn't need to be big (about 3 entries each).

- Write a few sets of examples of how you would pull data from across the tables.