

# What is a Dataset?

Quacky has now learned how machines can learn. But he wonders what information they learn from. A wise owl at the pond explains that every machine learning model needs something very important before it can learn anything: a dataset.



Quacky becomes curious about what a dataset looks like and why it is so important!

## Understanding a Dataset

A dataset is a structured collection of data that helps a machine learn. It contains many examples from which patterns can be discovered.

A dataset is often arranged like a simple table:

- Rows represent individual examples or samples (each one is a separate duck, person, or item)
- Columns represent features (information or characteristics about each example)

This format helps both humans and machines easily understand what the data represents.

## Quacky's Duck Dataset Example

	A	B	C	D
1	<b>Duck Name</b>	<b>Speed</b>	<b>Feather Color</b>	<b>Can Swim?</b>
2	Quacky	12	Yellow	Yes
3	Waddles	8	Brown	Yes
4	Feather	6	White	Yes
5	Splash	14	Grey	Yes
6				

Row

Column

Here:

- Each row is one duck
- Each column is a feature that describes the ducks
- The table becomes data that a machine can learn from
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Quacky learns that if he collects enough useful data, a machine could:

- Predict how fast a new duck might swim
- Group ducks by colour or ability
- Help him choose strong teammates for pond races

instructor



Miss Hootsworth

### Final Simple Definition

A dataset is the foundation for machine learning. It is a structured collection of examples with features that describe them. Machines study these examples just like you study surroundings to learn and make decisions.