Fundamental Concepts in Data Insight:

Demo: Relational Data & SQL

Fundamentals for a General Audience

How do you define data schema?

```sql
CREATE TABLE evidence (
  EvidenceID INT PRIMARY KEY,
  Value FLOAT,
  Category TEXT,
  Report TEXT,
  Department TEXT
);
```

How do you insert data?

```sql
INSERT INTO evidence VALUES
(1, 1000, "Money", "Found at X, Person Y", "Vice"),
(2, 2500, "Money", "Found at A, Person Y", "Vice"),
(3, 500, "Weapons", "Found at B, Person Z", "Terrorism");
```

How do you query for data?

```
SELECT *
FROM evidence
```

```
pd.read_sql("SELECT * FROM evidence", db)
```

	EvidenceID	Value	Category	Report	Department
0	1	1000.0	Money	Found at X, Person Y	Vice
1	2	2500.0	Money	Found at A, Person Y	Vice
2	3	500.0	Weapons	Found at B, Person Z	Terrorism

How do you peform analytical queries?

```python
pd.read_sql("""

SELECT Category, AVG(Value)
FROM evidence
GROUP BY Category

""", db)
```

	Category	AVG(Value)
0	Money	1750.0
1	Weapons	500.0