Data Manipulation Language (DML)

Data Manipulation Language

- **Data Manipulation Language (DML)**

  its statements allow us to manipulate the data in the tables of a database

- **the SELECT statement**

  used to retrieve data from database objects, like tables

Data Manipulation Language

SQL

```
SELECT * FROM sales;
```

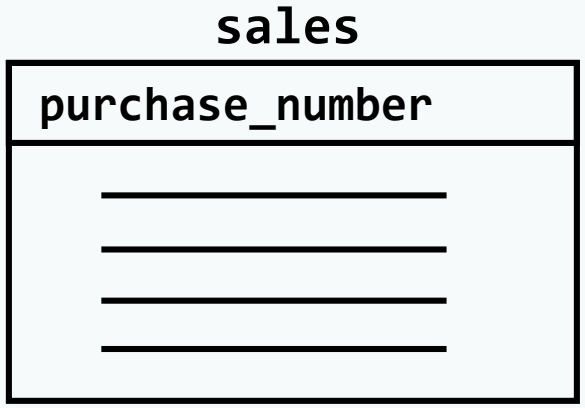
sales

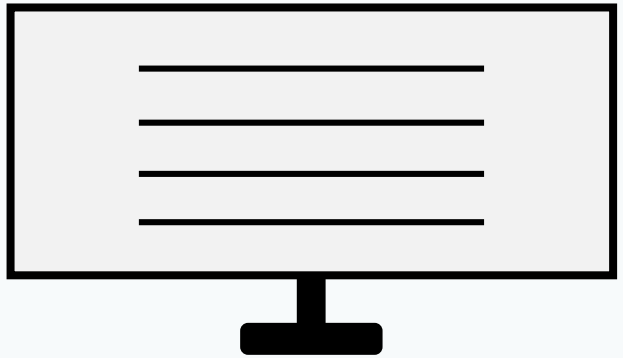
purchase_number

Data Manipulation Language

SQL

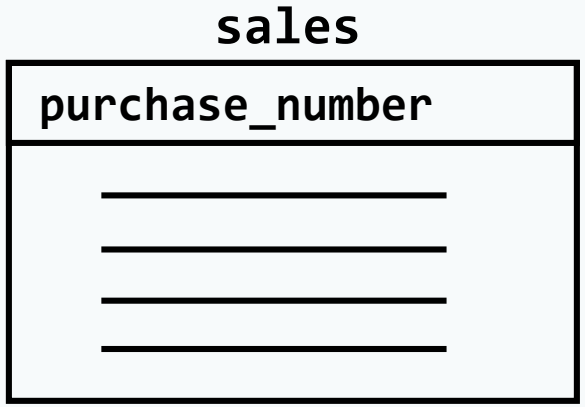
```
SELECT * FROM sales;
```





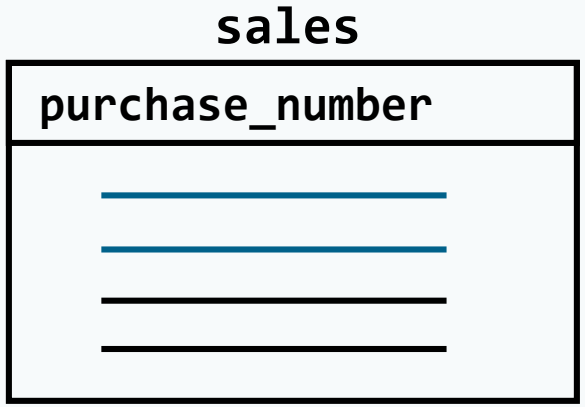
Data Manipulation Language


```
SELECT… FROM sales;
```



Data Manipulation Language

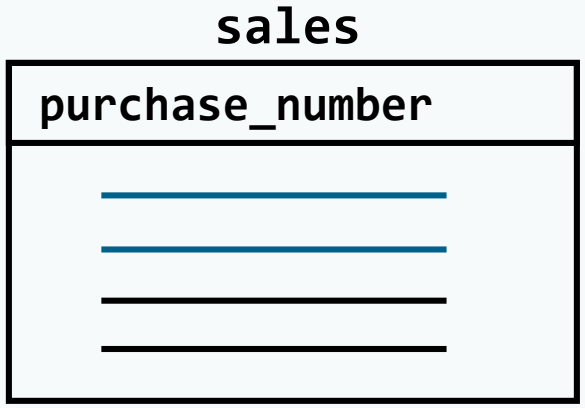

```
SELECT… FROM sales;
```

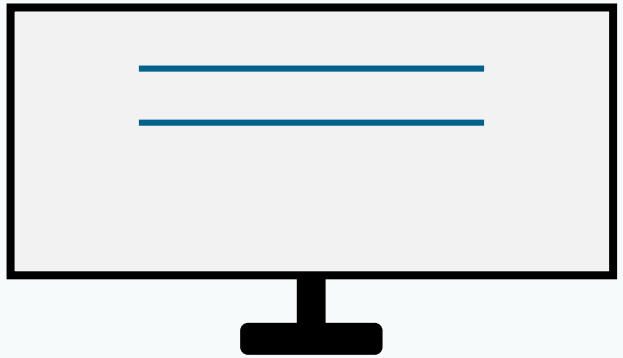


Data Manipulation Language

SQL

```
SELECT… FROM sales;
```





Data Manipulation Language

Why are we going to need just a piece of the table?

- imagine a table with 2 million rows of data
- it can be helpful if you could extract only a portion of the table that satisfies given criteria
- you should know how to use SELECT perfectly well

Data Manipulation Language

- **the INSERT statement**

  used to insert data into tables

- **INSERT INTO… VALUES…;**

Data Manipulation Language


```
INSERT INTO sales (purchase_number, date_of_purchase) VALUES
(1, ‘2017-10-11’);
```

sales

purchase_number	date_of_purchase

Data Manipulation Language


```
INSERT INTO sales (purchase_number, date_of_purchase) VALUES
(1, ‘2017-10-11’);
```

sales

purchase_number	date_of_purchase
1	2017-10-11

Data Manipulation Language


```
INSERT INTO sales VALUES
(1, ‘2017-10-11’);
```

sales

purchase_number	date_of_purchase
1	2017-10-11

Data Manipulation Language


```
INSERT INTO sales (purchase_number, date_of_purchase) VALUES
(1, ‘2017-10-11’);


INSERT INTO sales VALUES
(1, ‘2017-10-11’);
```

Data Manipulation Language


```
INSERT INTO sales (purchase_number, date_of_purchase) VALUES
(2, '2017-10-27');
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language

the UPDATE statement

allows you to renew existing data of your tables

Data Manipulation Language

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language


```
UPDATE sales
SET date_of_purchase = ‘2017-12-12’
WHERE purchase_number = 1;
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language


```
UPDATE sales
SET date_of_purchase = ‘2017-12-12’
WHERE purchase_number = 1;
```

sales

purchase_number	date_of_purchase
1	2017-12-12
2	2017-10-27

Data Manipulation Language

the DELETE statement

- functions similarly to the TRUNCATE statement

TRUNCATE vs. DELETE

TRUNCATE allows us to remove all the records contained in a table

vs.

with DELETE, you can specify precisely what you would like to be removed

Data Manipulation Language


```
DELETE FROM sales;
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language


```
DELETE FROM sales;
```

```
TRUNCATE TABLE sales;
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language


```
DELETE FROM sales;
```

```
TRUNCATE TABLE sales;
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language


```
DELETE FROM sales
WHERE
     purchase_number = 1;
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language


```
DELETE FROM sales
WHERE
     purchase_number = 1;
```

sales

purchase_number	date_of_purchase
1	2017-10-11
2	2017-10-27

Data Manipulation Language

Data Manipulation Language (DML)

- SELECT… FROM…
- INSERT INTO… VALUES…
- UPDATE… SET… WHERE…
- DELETE FROM… WHERE…

Next:

Data Control Language (DCL)