Databases

Introduction to SQL

```
create table Person(
    Name varchar(50),
    FavoriteColor int
)
```

```
create table Color(
    Id int,
    Name varchar(50)
)
```
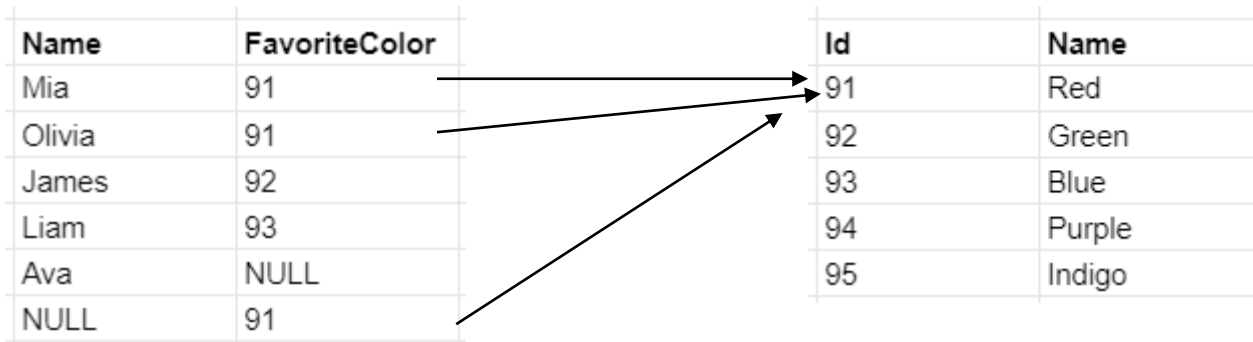
```
insert into Color
values
(91, 'Red'),
(92, 'Green'),
(93, 'Blue'),
(94, 'Purple'),
(95, 'Indigo')
```

Join

Name	FavoriteColor
Mia	91
Olivia	91
James	92
Liam	93
Ava	NULL
NULL	91

Id	Name
91	Red
92	Green
93	Blue
94	Purple
95	Indigo

Join

Name	FavoriteColor
Mia	91
Olivia	91
James	92
Liam	93
Ava	NULL
NULL	91

Id	Name
91	Red
92	Green
93	Blue
94	Purple
95	Indigo

Join

Name	FavoriteColor	Id	Name
Mia	91	91	Red
Olivia	91	91	Red
James	92	92	Green
Liam	93	93	Blue
Ava	NULL	NULL	NULL
NULL	91	91	Red
NULL	NULL	94	Purple
NULL	NULL	95	Indigo

Group By

Name	Country	Income
Mia	Sweden	20000
James	Sweden	25000
Liam	Sweden	28000
Ava	Iceland	60000
Olivia	Iceland	50000
Lisa	Spain	10000

Group By

Name	Country	Income
Mia	Sweden	20000
James	Sweden	25000
Liam	Sweden	28000
Ava	Iceland	60000
Olivia	Iceland	50000
Lisa	Spain	10000

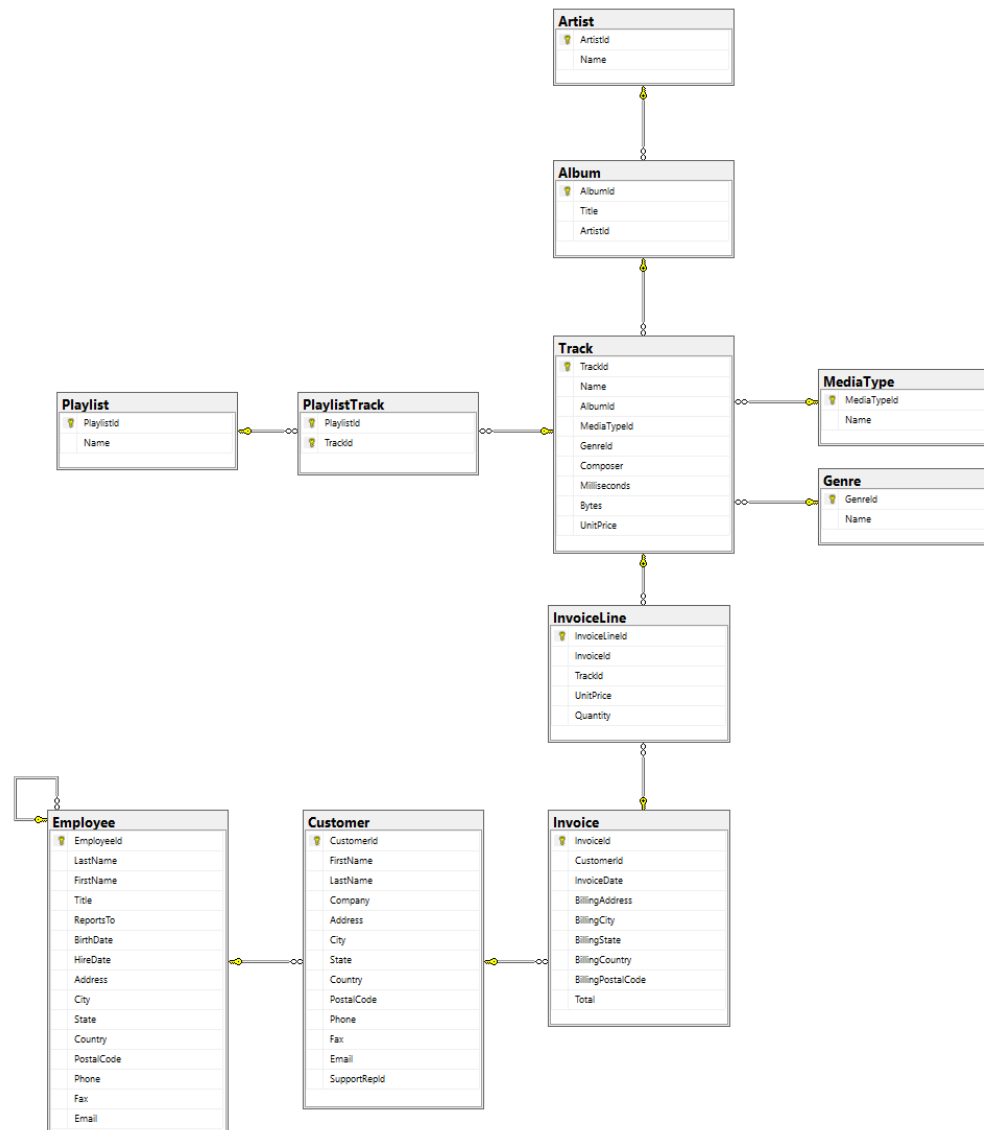# Group By

```sql
SELECT Country, AVG(Income) as Average, count(*) as Inhabitants
FROM Person
GROUP BY Country
```
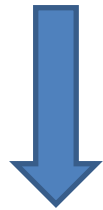
Country	Average	Inhabitants
Iceland	55000	2
Spain	10000	1
Sweden	24333	3

Chinook

Why databases?

Storing
Consistent
Performance
Many users
Robust

SQL

Standarized
Read, Update, Remove
Create tables

Join
Combining tables

Keys
Consistent data

Group by
Sum
Average