

# Overview



**History**

**Intuitive**

**Standard and proprietary versions**

**Pronounced?**

**Topics**





# Navigating PostgreSQL



## Downloads

### PostgreSQL Downloads

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PostgreSQL is available for download as ready-to-use packages or installers for various platforms, as well as a source code archive if you want to build it yourself.

#### Packages and Installers

Select your operating system family:



#### Source code

The source code can be found in the main [file browser](#) or you can access the source control repository directly at [git.postgresql.org](https://git.postgresql.org). Instructions for building from source can be found in the [documentation](#).

#### Beta/RC Releases and development snapshots (unstable)

There are source code and binary **packages** of beta and release candidates, and of the current development code available for testing and evaluation of new features. Note that these builds should be used **for testing purposes only**, and not for production systems.



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[www.postgresql.org/download/](https://www.postgresql.org/download/)



# Two Programs



# Two Programs



# Apps

SQL Shell or PSQL

pgAdmin





# Creating Databases and Tables





# SQL Structure

```
SELECT * FROM Customers
```



# SQL Structure

```
SELECT * FROM Customers  
WHERE State='CA' AND State='NY';
```



# SQL Structure

```
SELECT * FROM Customers  
WHERE State='CA' AND State='NY';
```

```
SELECT * FROM Customers WHERE State='CA' AND State='NY';
```



# Two Types of SQL Commands

**Data manipulation language  
(DML)**

**Data definition language (DDL)**





# Data Types



## Chapter 8. Data Types

### Table of Contents

- 8.1. Numeric Types
  - 8.1.1. Integer Types
  - 8.1.2. Arbitrary Precision Numbers
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- 8.3. Character Types
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  - 8.8.7. Circles





# Primary and Foreign Keys





# Querying Data







# Formatting Data in a Table





# Aggregate Functions





# Indexes



# How They Work

Pointer to data in a table

Book





# Joins



# Inner Join

UsersTable

Jane Smith  
Bill Johnson  
Lisa Wang  
Jason Brown  
Lucy Bell

StateCodesTable

AZ  
NV  
CA



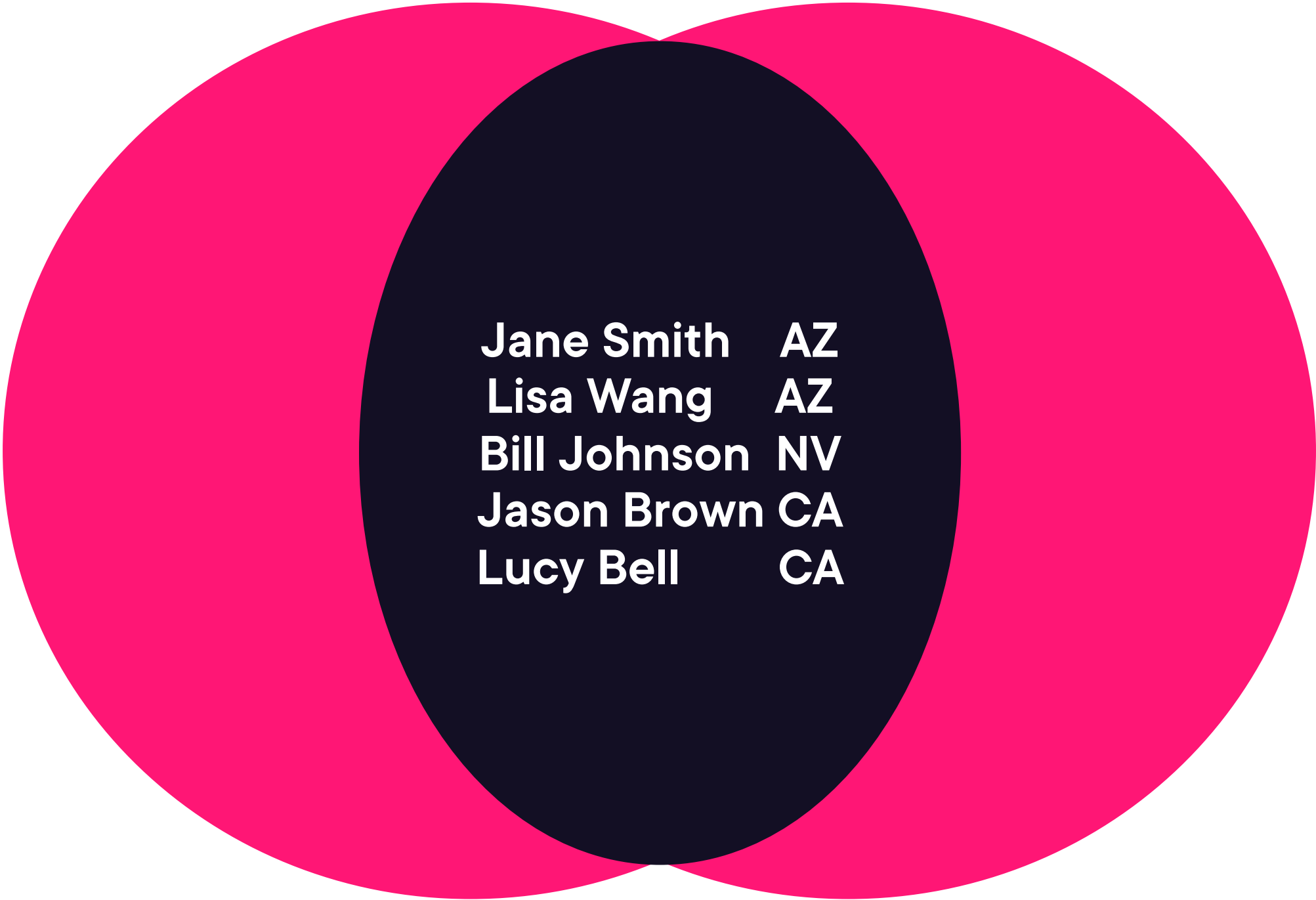
# Outer Join



# Inner Join

UsersTable

StateCodesTable

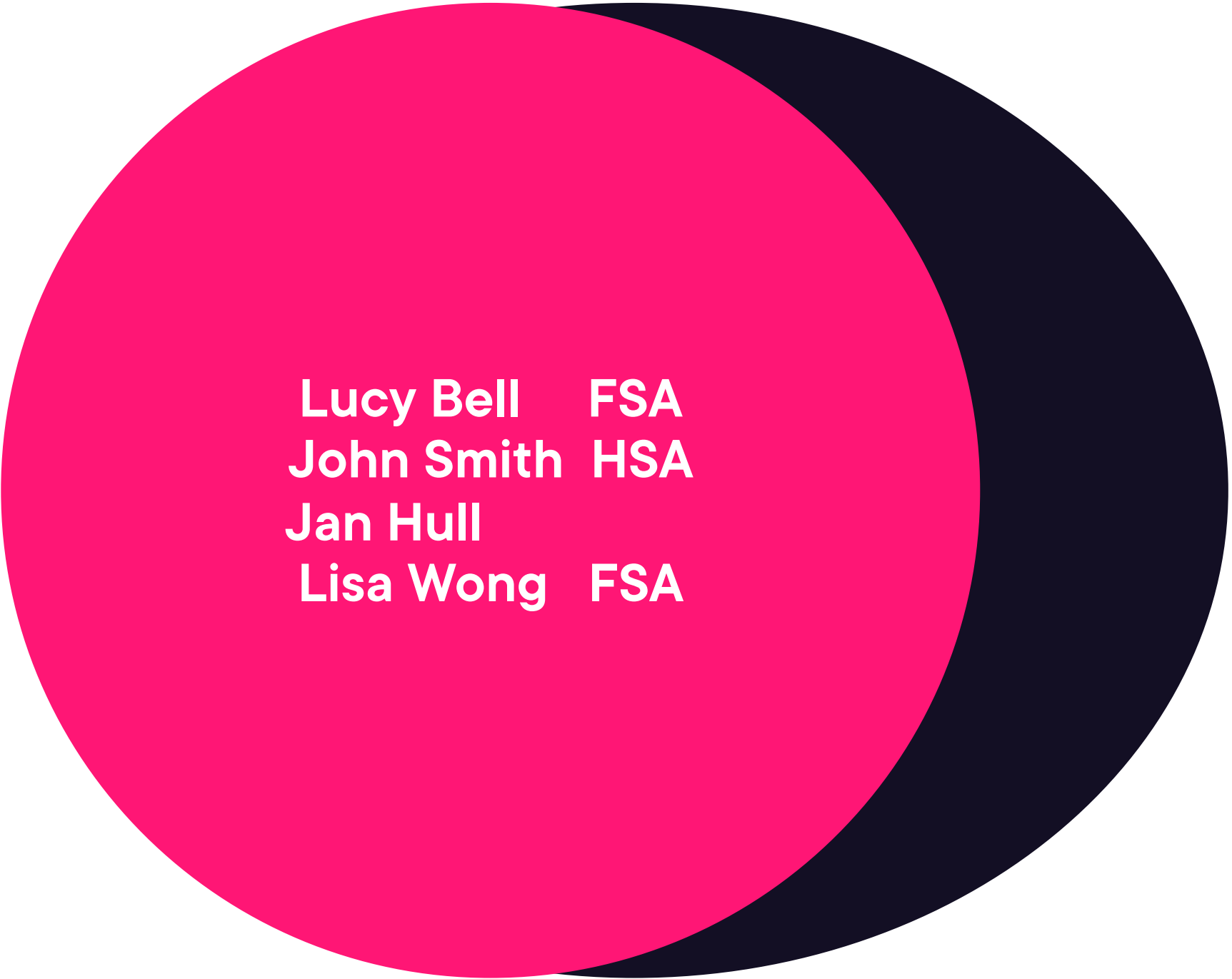




# Left Outer Join

EmployeesTable

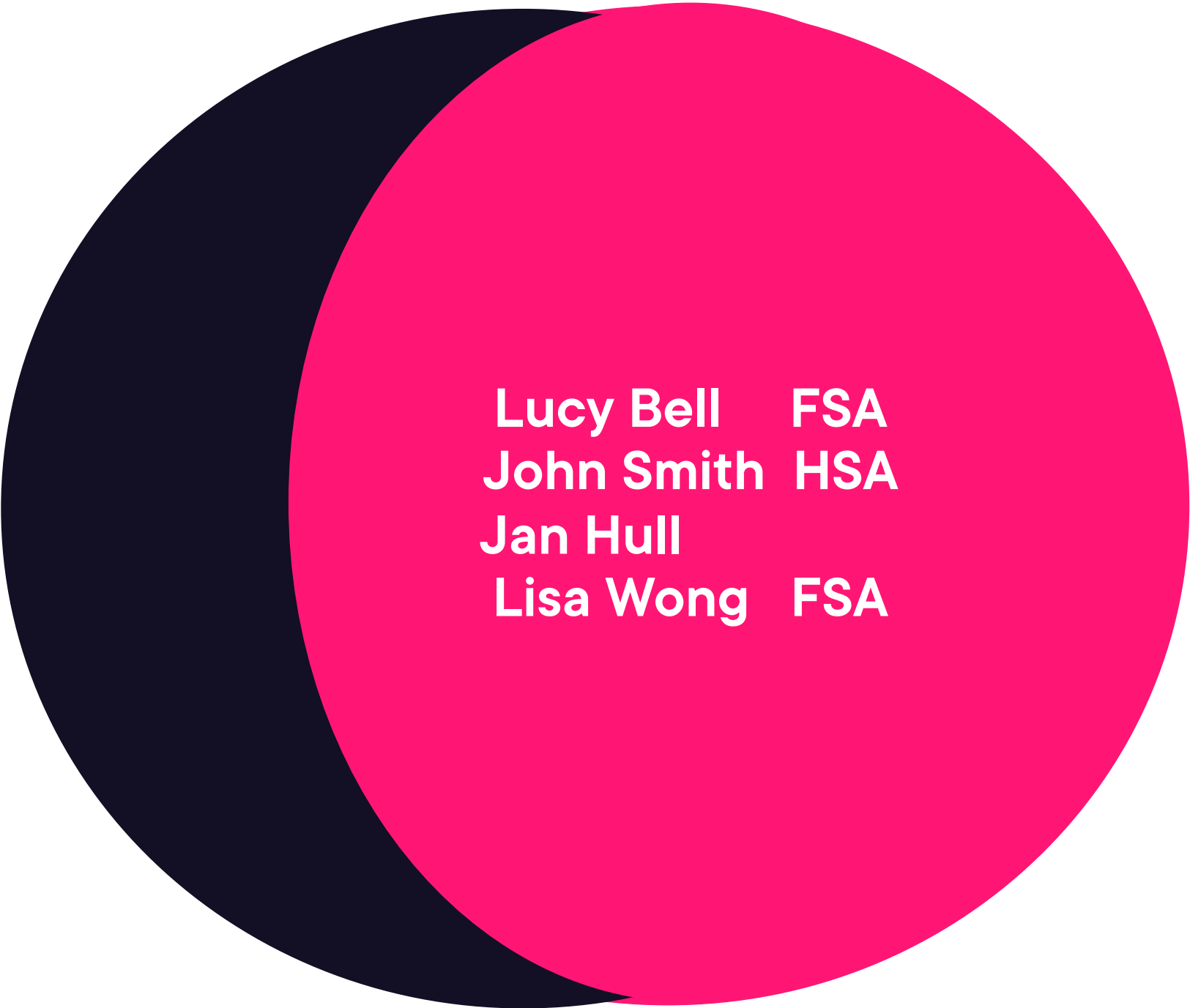
BenefitsTable



# Right Outer Join

EmployeesTable

BenefitsTable



# Summary



Navigation of Postgres

Creating databases and tables

Data types

Primary and foreign keys

Querying information

Formatting data

Functions

Indexes

Joins

