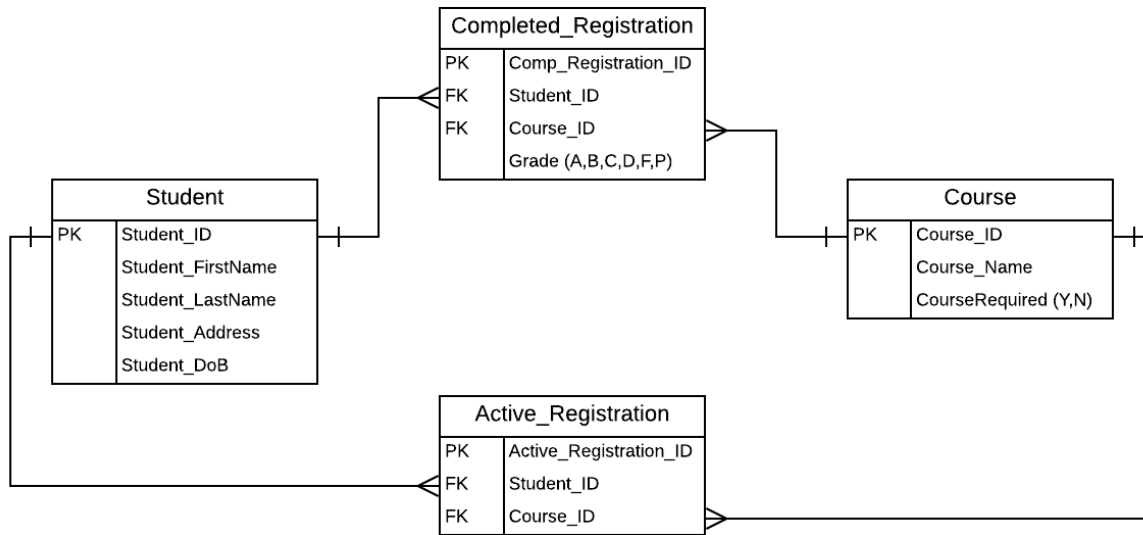


In-Class Exercise (Security Matrix, DCL)

ERD Model for class



Security Access Matrix – Possible Solution

1 – 3. Fill out what object privilege (S,I,U,D) each role should have for each table. If none, leave blank

Subjects	Objects				
		Student	Course	Completed Registration	Active Registration
Table Privileges	Students	S,U,	S	S	S
• Delete (D)	Faculty		S		S
• Insert (I)	Administrators	S,I,U	S,I,U	S,I,U	S,I,U,D
• Select (S)					
• Update (U)					

NOTE: One could argue some of these assignments above. Just use as an example

- Create the Student role called *students* with a default password of password123

```
create role students identified BY password123;
```
- Use the Grant statement to assign privileges to the *students* Role for Student and Completed_Registration tables;

```
Grant select, update Student to students;
Grant select on Completed_Registration to students;
```
- Create a user named fallonj. Then in a separate statement grant the students role to fallonj;

```
Create user fallonj identified by password123;
Grant students to fallonj;
```

7. Remove a user assigned to a role: remove the student roles from fallonj

```
Revoke students from fallonj;
```

Views

8. How can you use views to help with data security?

A view can be used to provide a limited view of certain columns or rows, restricting access. When you assign view-only access (SELECT priv only) or limited edit access to this view, this can also restrict what you can do to the data in the underlying table.

9. Write a view for the RIDE table in the Ride Share context (what you are using for your homework). **NOTE: If you don't have your HW tables created, skip to problem B to use Vendors table from Accounts Payable table set**

- A. Create a view called ***rider_restricted_info_view*** that shows all ***riders*** but only show the following columns: ***rider_id, first_name, last_name, email, and phone.***

For context: This view is minimizing what columns it shows (i.e. home address). Let's say that's for guarding their privacy. Once you create your view see if you can select from it using the SQL: `SELECT * FROM`

```
rider_restricted_info_view;
```

```
Create view rider_restricted_info_view as
select rider_id, first_name, last_name, email, phone
from rider;
```

```
select * from patron_fees_min_view;
```

- B. If you don't have your homework tables built but you have access to in-class Accounts Payable tables, write a view that returns just the ***vendors from California*** but only for their name, address, city, and state. Call the view ***vendor_ca_only_view***

It would look something like this but not column names may differ slightly:

```
Create view vendor_min_view as
select vendor_name, vendor_address, vendor_city, vendor_state
from vendors
where vendor_state = 'CA';
```

```
select * from vendor_ca_only_view;
```