Employee Management System

For designing the database tables, ids and ages were set as int, all the fields that were names were set as varchar, and only budget was set as decimal since it is a monetary amount. For constraints, on the other hand, I ensure that all values were set to not null with the exception of the foreign keys. This is because those foreign values could be chosen or changed later on so there is a chance of an entry being created with an empty foreign key.

Aside from the not null values, I ensure that all three tables had a primary key while Employees and Projects had a foreign key connecting them to the other related table. I make sure that the three tables were connected in one way. The data entries were based on the examples provided and random values that came to mind.

For the joins used while retrieving data, they were based according to the requirements indicated in the project. They are simple left joins of only two tables. The only point to keep in mind was ensuring that every field was properly indicated from which table it was called from to ensure similar names didn’t cause an error.

In the case of the views, those were created according to requirements. They are usually collections of the data that is expected to be searched for most frequently. In this case, the list of employees and of the active projects are the data searches more expected to be called and, as such, were the ones made into views.

As for challenges, the first one was while creating the tables. I had to ensure that the department table existed before the employees one in order for the foreign key to be created properly. The second challenge was to ensure that at least one result was present in the data retrieval to work for the examples. Finally, I tested the views to ensure that they worked properly.