**Module 7 Challenge Analysis: SQL**

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**Overview**

In Challenge 7, I was tasked to help Bobby of Pewlett Hackard create a database using SQL. SQL is a query language that is widely used. SQL is versatile because you can query and organize data for projects that are large or small scale.

**Analysis**

For this project I created an Entity-Relationship Diagram (ERD) which is an conceptual representation of the information system entities. Within the ERD you can see the entities, the connections and the cardinalities of the diagram. An ERD is useful in designing and debugging relational databases. Within the ERD there are primary keys, a unique identifier and foreign keys that link columns together.

**ERD for Pewlett Hackard:**

A screenshot of a cell phone

Description automatically generated

Using PostgresSQL and pgAdmin I created tables and a database from imported CSV files. Joining tables together allowed me to perform many queries to help Pewlett Hackard identify employees by birthdate, high date, title or those who are eligible for the mentorship program.

**Sample of employees eligible for the mentorship program:**

**A screenshot of a computer

Description automatically generated**

**Challenges**

There were some challenges on this project. When I was creating my tables I realized I needed to go back and change some of the entities in my ERD from integer(INT) to various characters (VARCHAR) so that I could join them properly.

**Conclusion**

Pewlett Hackard now has a database they can query to gather information about retiring employees so that they will be better prepared. SQL allows Pewlett Hackard to continue to add tables to this data base as the company grows and changes. The company can change queries based on the information the add to the database.