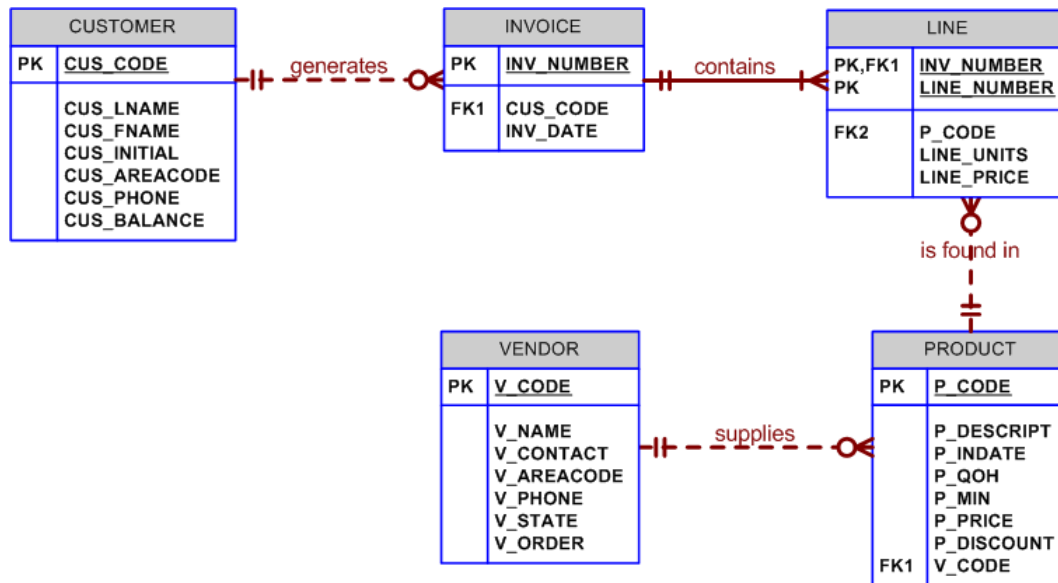# Class Exercise – 11.3

Name: Ashlyn Cooper
Clemson/Assignment ID: DBOPT
Submission: Save this Word document with your answers as a PDF file and upload the PDF file to Canvas.

Query Optimization

Based on this ERD

And using the following query:

```
SELECT  P_CODE, SUM(LINE_UNITS)

FROM   LINE

GROUP BY      P_CODE

HAVING SUM(LINE_UNITS) > (SELECT MAX(LINE_UNITS) FROM LINE);
```

1. **What is the likely data sparsity of the LINE_UNITS column?**

   High.

2. **Should you create an index? If so, what would the index column(s) be and why.**

   Yes, you should make an index on LINE_UNITS. LINE_UNITS as an index would be helpful for the inner query.

3. **Should you create an index on P_CODE and Why?**
   If so, write the SQL command to create that index. If not, explain your reasoning.

   Yes, it will help in query execution because a GROUP BY is being performed in the query.

   CREATE INDEX LINE_NDX1 on LINE(P_CODE)