**Course:** ENSF 607/608 – Fall 2020

**Final Project:** EER Diagram Write-up

**Due Date:** November 18th, 2020

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Diagram Assumptions:

* SUPPLIERS must either be local or international. The only difference being a calculation of import tax on international suppliers.
  + For the purposes of storing in the database, supplier type defines which class the supplier belongs to. Import Tax shall be null for local suppliers.
* ITEMS may be electrical or non-electrical, but shall both inherit from an ITEM superclass.
  + Similar to SUPPLIERS, electrical items shall have more information stored about their power requirements and non-electrical items shall show null for these attributes.
* It should be noted that for the case where more specializations are added to suppliers or items, these subclasses should be given their own tables to avoid a long list of nulls in the main superclass table. For now, we are using a single table with null values present to keep this iteration of the database clean.
* CUSTOMERS may be residential or commercial but have no attributes specific to each subclass. This was done to allow for extensibility of the client management system. More CUSTOMER types and attributes may be added in the future, allowing these types to be specializations cuts down on possible nulls in the database.
* ORDERS represent an aggregation of multiple order lines (i.e. string representation of each order+qty to be printed out for business use). Each order line is mapped to the individual item being ordered.
* The PURCHASES relation exists to connect the customer entity into the diagram. Otherwise, the CUSTOMER entity would sit as its own table in the database, not linking to any other entities. This would technically be acceptable since the project requirements do not specify how items are supposed to be sold or how budgets/sales are to be handled.
  + Adding this relation allows for extensibility of the ToolShop app for future point of sale operations as well as allowing customers to lookup previous orders.