

Assignment # 3

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1. Discuss the entities, attributes, and the relationship cardinalities presented in the Crow's Foot ERD.

- There are five entities, and they are customer, invoice, line, product, and vendor
- Each entity has attributes. For example, invoice entity has three attributes: invoice number, invoice date, and customer code.
- Relationship cardinalities:
 - **Customer and Invoice relationship:** A customer [1] may have zero or many invoices [2]; the invoice will have only one customer.
 - **Invoice and Line relationship:** An invoice [3] may have one or many lines [4]; the line will have one and only one invoice.
 - **Product and Line relationship:** A product [6] may have zero or many lines [5]; the line will have only one product.
 - **Vendor and Product relationship:** A vendor [8] may have zero or many products [7]; the product will have only one vendor.

2. Write the business rules that are reflected in the following Crow's Foot ERD. An example of a business rule in the given ERD: ***Every customer can have many invoices.***

- The invoices are written for a single customer. However, each customer can have many invoices. If the customer has not bought anything yet, there won't be any invoices.
- An invoice can include at least one or many detail lines, each of which describes one product bought by the customer.
- The invoice lines are written for a single product. So, every product can have many invoice lines. However, some products may never sell and appear in an invoice line.
- The product can be supplied by a single vendor and that each vendor can supply many products. However, the products might not be ordered from the vendor yet because the vendor contact information might be kept for the future product orders.