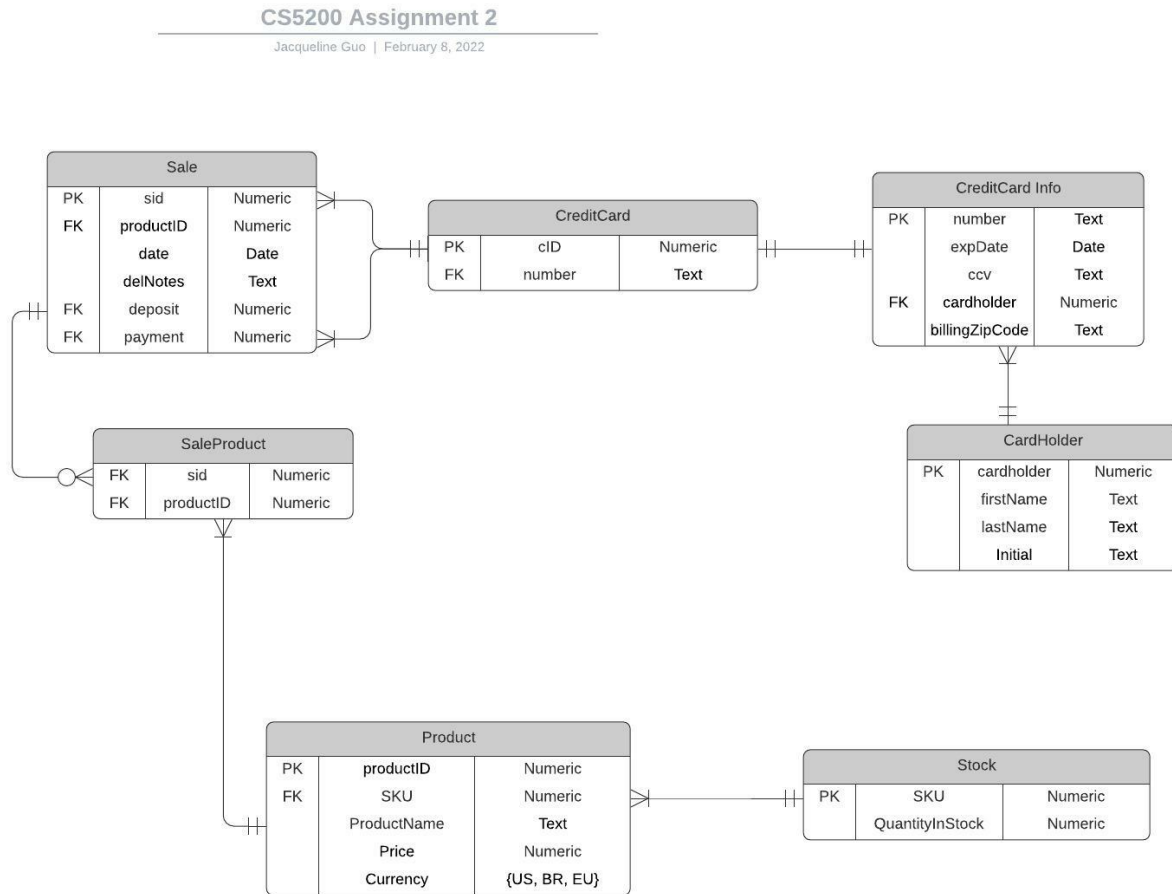Xuan Guo

CS 5002

Assignment 2

Crow's Foot ERD:

Link: https://lucid.app/lucidchart/9e2d020c-83d3-4e7c-96eb-
b653b2fdafb7/edit?invitationId=inv_b247cb1a-7155-4a32-a2ad-c17d89f3210d

Notes:

- I have added an attribute productID to use as a foreign key to connect Sale schema and product schema.
- The SaleProduct schema describe relation between Product and Sale.
- In addition, in product table, there's dependencies between productID and {productName, currency, price}. However, no dependency between SKU (unique stock unit identifier) and {productName, currency, price}. Thus, separating SKU and QuantityInStock to another table and using SKU as a foreign key in product schema.
- Furthermore, cardID has no dependency on {expDate, ccv, cardholder, billingZipCode}. So, to satisfy 3NF, I've split cardID to separate schema as a primary key and has the FDS as cardID->{number}. Then number-> {expDate, ccv, cardholder, billingZipCode} as another table.
- I've also separated cardholder info to a different schema called CardHolder which contains the cardholder's first, last name, and initial.

FDs:

Sale:

{sid} -> {productID}

{sid} -> {date}

{sid} -> {delNote}

{sid} -> {payment}

{sid} -> {deposit}

Credit:

{cid} -> {number}

CreditCard Info:

{number} -> {expDate}

{number} -> {ccv}

{number} -> {cardholder}

{number} -> {billingZipCode}

Cardholder:

{cardholder} -> {firstName}

{cardholder} -> {lastName}

{cardholder} -> {Initial}

Product

{productID} -> {SKU}

{productID} -> {Price}

{productID} -> {ProductName}

{productID} -> {Currency}

Stock:

{SKU} -> {QuantityInStock}