Winter 2024 Midterm Test
Solutions V1
CSC 343 H1S
Duration: **90 minutes**

Question 1. [7 marks]

Consider the following relations and constraints.

Relations:

Customer(<u>cID</u>, <u>name, email</u>)

Inventory(<u>itemID</u>, description, price)

Purchase(<u>cID, itemID, date</u>, total)

Integrity Constraints:

Purchase[cID] $\subseteq$ **Customer**[cID]

Purchase[itemID] $\subseteq$ **Inventory**[itemID]

Customer[cID] $\subseteq$ **Purchase**[cID]

Part (a) [3 marks]

Assume there are 20 tuples in **Purchase**. What are the minimum and maximum number of tuples that could be in **Customer**? If there is no limit on the maximum, write ∞.

Minimum: 1 Maximum: 20

Assume there are 20 tuples in **Purchase**. What are the minimum and maximum number of tuples that could be in **Inventory**? If there is no limit on the maximum, write ∞.

Minimum: 1 Maximum: ∞

Assume there are 20 tuples in **Customer**. What are the minimum and maximum number of tuples that could be in **Purchase**? If there is no limit on the maximum, write ∞.