CS 775/875 Quiz 11 4/21/2021 Name _____

For the following questions, consider the ER diagram below showing the relationship between FedEx offices, drivers, and routes. (Select **one** option.)

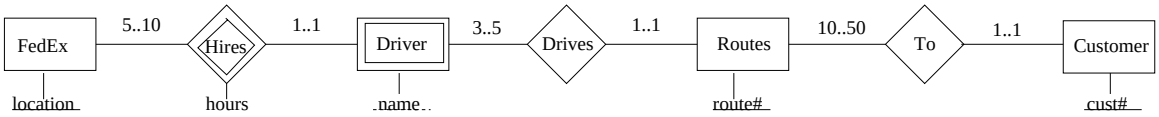

Figure 1: ER for FedEx-driver-routes.

1. (2) Which of the following relational schemas is derived from the ER diagram:

   (a) FedEx(location,hours), Driver(name, location), Routes(route#, name,location, cust#), Customer(cust#)

   (b) FedEx(location), Driver(name, location, hours), Routes(route#, name, location), Customer(cust#, route#)

   (c) FedEx(location), Driver(name, location, hours), Routes(route#, name, location), Customer(cust#, route#)

   (d) FedEx(location), Driver(name, location, hours), Routes(route#, name), Customer(cust#, route#)

2. (2) The ER diagram puts constraints on the number of entities (rows) in FedEx, Driver, Routes, Customer. Which of the following combinations of cardinalities (*i.e.*, number of rows) is permitted? (Cardinality of table T is denoted by $\mid T \mid$.)

   (a) $\mid FedEx \mid = 100, \mid Driver \mid = 30, \mid Routes \mid = 10$

   (b) $\mid FedEx \mid = 5, \mid Driver \mid = 30, \mid Routes \mid = 100$

   (c) $\mid FedEx \mid = 10, \mid Driver \mid = 30, \mid Routes \mid = 100$

   (d) $\mid FedEx \mid = 5, \mid Driver \mid = 30, \mid Routes \mid = 50$

3. (2) If there are 3 FedEx offices, what is the minimum number of customers? _____

4. (2) If there are 2 FedEx office, what is the maximum number of customers? _____

5. (1) Is it possible for a database instance to have only 20 routes (i.e., 20 rows in the Routes table)? YES NO

6. (1) Is it possible for a customer to be served by multiple drivers? YES NO