Group Assignment #2

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# Question 1: (20 pts.)Database Relationships

Consider the relationship between Student and Adviser in the image above. Explain what it means if the maximum cardinality of this relationship is: (20pts) -Justine

1. N:1
   1. If the maximum cardinality is N:1 of the relationship between Student and Adviser, this means a student is assigned one adviser and an adviser is assigned to many students.
2. 1:1
   1. If the maximum cardinality is 1:1 of the relationship between Student and Adviser, this means a student is assigned one adviser and an adviser is assigned one student.
3. 5:1
   1. If the maximum cardinality is 5:1 of the relationship between Student and Adviser, this means a student is assigned one adviser and an adviser is assigned to a maximum of five students.
4. 1:5
   1. If the maximum cardinality is 1:5 of the relationship between Student and Adviser, this means a student is assigned to a maximum of five advisers and an adviser is assigned to one student.

# Question 2: (30 pts)Employee Class Attendance Form

**Identify two entities in the data entry form in the Figure above. What attributes are shown for each? What do you think are the identifiers?**

The two entities in the data entry form above are the employee and the class. The attributes for the “employee” entity are the employee number, their first and last name, and email address. The attributes for the “class” entity are the course name, course date, instructor and remarks. The key identifier for the employee entity is the employee number, while the key identifiers for the class entity are the course name and course date. /Jessica Pham

# Question 3: (50 pts.)

1. As we discussed in class, with the explosion of huge volumes of unstructured data, a new breed of database technologies has emerged and have become popular. Clearly, these new database technologies like Dynamo, Bigtable, and Cassandra are critical technology to the companies that created them. Why did they allow their employees to publish academic papers about them? Why did they not keep them as proprietary secrets? (25 pts)

New database technologies created by the company. The reasons why these companies will not choose to keep them as proprietary secrets is that these companies rely on more unstructured data for them to organize and get accurate information for business and then promote a more advanced DBMS technology. /JiaJunGu

1. What do you think this movement means to the existing DBMS vendors? How serious is the NoSQL threat? Justify your answer. What responses by existing DBMS vendors are sensible? (15 pts)

Existing DBMS vendors should be more cautious with their next steps after acknowledging this new movement. Although DBMS are generally not designed or built to operate with huge amounts of data across many servers, these vendors should try to find new solutions to these important issues in order to help out those individuals who are already using or simply prefer DBMS. The NoSQL threat is important enough to address and plan out several different solutions for, but it is not something that is a “lost cause”. Adapting and overcoming obstacles like these is important for companies, especially because new technologies are constantly being created and adopted. A proper response by existing DBMS vendors to this dilemma would be to find a way to process this large amount of data, or to help existing customers transition to other data management systems that can handle the larger quantities. /Zack Nguyen

1. Is it a waste of your time to learn about the relational model and Microsoft Access? Why or why not? (10 pts)

It is not a waste of time to learn about the relational model and microsoft access. it is important to use models to store data and then use microsoft access as a platform to analyze statistics meaning of the data. As an informational management tool as well as relational database, it is easy for us to track and store all data for increasing the overall business efficiency./JiaJunGu