## GEOG 574 - Lab 3: Design an ER Diagram Using ERDPlus

- 1. The data type for DNAME is set to varchar for the ability to add indeterminate numbers or letters as a department name. The DNAME attribute is limited to 25 characters as a department name will most likely not exceed more than 25 characters. The 25 character limit requires less memory to store 25 characters as opposed to 50 characters no need to store additional unused character spaces. DNUMBER is stored as int to allow only integers to be populated. The int data type can store up to 4 bytes of data. The DNUMBER would most likely not exceed this limit.
- 2. DNUMBER and DLOCATION are both needed as a primary key to find the correct DEPARTMENT\_LOCATION. It is likely that multiple occurrences of the same DNUMBER and the same DLOCATION. Therefore, both DNUMBER and DLOCATION are needed as the primary key in order to accurately query the data.
- 3. True the referencing column of a foreign key must be a primary key of the referenced table. A foreign key joins a table to another table by referencing its primary key. A constraint of a foreign key is that the key can only contain values that are in the referenced primary key which ensures the integrity of the data joined.

4.







