**IS 441 Summer 2019 Class session 5 Summary**

**Intro Normalization**

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“Big Picture” of Normalization

1. Purpose: Remove unnecessary redundancy from the original table (or relation, which is in first normal form – 1NF)
2. Action contents: Decompose the original big relation (table) into smaller, well-structured relations (tables).
3. With a relation (table) that has functional dependencies identified:
   1. Remove Partial Dependency (PD)
   2. Remove Transitive Dependency (TD)
4. Obtain the functional dependency diagram needed in “2” above:
   1. Apply common sense to identify obvious functional dependencies (logical relationships of determination) between/among attributes (fields, columns);
   2. When the above “a” cannot effectively determine functional dependencies, conduct analysis based on data contents of columns in the original table.
5. To conduct analysis based on data contents of columns in the original table,
   1. When the determinants identified in 3a above cannot cover all the fields/columns in the original table, we then attempt the combination of the determinants identified in 3a to see if some combination of the determinants can uniquely determine a remaining, “un-grouped” column.
   2. To conduct 4a, we would set the value(s) of the prospective determinant(s) at a value (usually a convenient value, such as those that are already in the given table), and see if
      1. With the same determinant value(s) the to-be-determined column does have the same value;