- 1. The attributes in this relation would be (A)SID, and (C)CRN as keys, with (B)ClassName being determined by the CRN.
 - R is in 1NF because it is a relation, but it has a partial dependency where $C \rightarrow B$, but A doesn't determine either. A way to split this would be R1(A,C)R2(C,B).
- The attributes in this relation would be (<u>A</u>) CustomerID, and (<u>B</u>)ServiceType as keys, and (C)EmployeeID with (<u>B</u>)ServiceType being determined by (C)EmployeeID.
 R is not in BCNF because a determinate (C)EmployeeID, isn't a key. To resolve this issue, you could split the relation up like this: R1(<u>A</u>,<u>C</u>), R2(<u>C</u>,<u>B</u>).
- 3. This relation is fine. (A)SID, and (B)CRN are the keys and (C) isn't determined by either so there isn't any transitive, or partial dependency. It meets everything needed to DKNF.
- 4. The attributes of this relation would be (<u>A</u>)H-SSN, and (<u>B</u>)W-SSN as keys. Since A+B-> C, and then C-> D, there is a transitive dependency.

 Since there is a transitive dependency, this relation is not in the 3NF, but there isn't a partial dependency so this relation is in 2NF. To make this work, the relation would be split like this: R1(A,B,C), R2(C,D).
- 5. The attributes of this relation are (<u>A</u>)VIPID, (<u>B</u>)favoriteBookAuthors, and (<u>C</u>)favoriteSports, each being a key with A determining both B, and C.

 I believe this relation is in the BCNF because there is a Multi-value dependency, but there are no transitive, or partial dependencies. A way to split this up would be: R1(A,B), R2(A,C).