1. List the members of your group below. Underline your name.

2. Consider $R(A, B, C, D, E)$ with dependencies

$$
\begin{aligned}
AB &\rightarrow C \\
BC &\rightarrow A \\
D &\rightarrow E \\
CE &\rightarrow B
\end{aligned}
$$

Decompose R as necessary to generate a BCNF schema. For each decomposition, indicate the used dependency and the projected dependencies for the decomposed relations.

[additional space for answering the earlier question]

3. Provide the smallest possible instance of a relation that *violates* the multivalued dependency $AB \twoheadrightarrow CD$.

4. Decompose, as needed, the schema of Question 3 to 4NF.

5. State *Armstrong's Axioms* for functional dependencies and prove their soundness from first principles.