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

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

\[
\begin{align*}
AB &\rightarrow C \\
BC &\rightarrow A \\
D &\rightarrow E \\
CE &\rightarrow B
\end{align*}
\]

List all keys of $R$

3. Project the dependencies of Question 2 onto the relation $R'(A, B, C)$. 
4. Decompose $R$ as necessary to generate a BCNF schema. For each decomposition, indicate the used dependency and the projected dependencies for the decomposed relations.
5. Provide the smallest possible instance of a relation that violates the multivalued dependency $AB \rightarrow CD$.

6. Decompose, as needed, the schema of Question 5 to 4NF.
7. State *Armstrong’s Axioms* for functional dependencies and prove their soundness from first principles.