Integrity Constraints – Practice Questions

1. Consider the schema:

   employee(employee-name, street, city)
   works(employee-name, company-name, salary)
   company(company-name, city)
   manages(employee-name, manager-name)

   Give an SQL DDL definition for the tables of this database. Identify referential-integrity constraints that should hold and include them in the DDL definition.

2. Given the following *relation*, list all of the nontrivial functional dependencies satisfied in it:

A	B	C
a_1	b_1	c_1
a_1	b_1	c_2
a_2	b_1	c_1
a_2	b_1	c_3

3. Given the relation schema R = (A, B, C, D, E) and the set of functional dependencies:

   $F = \{$ $E \rightarrow AB$
              $BC \rightarrow D$
              $D \rightarrow E$
              $AB \rightarrow BC$
              $BC \rightarrow E$ $\}$

   Compute the canonical cover F_c. Show your steps clearly!