1. How many distinct tuples are in a relation instance with cardinality 22?

2. What is the minimum and maximum cardinality a relation instance can have, if its degree is 22?

3. What is the difference between a candidate key and the primary key for a given relation?

4. Suppose we have the following relational schema (underlines fields are the primary keys):

   - Emp(eid: integer, ename: string, age: integer, salary: real)
   - Works(eid: integer, did: integer, pctime: integer)
   - Dept(did: integer, dname: string, budget: real, managerid: integer)

   a) Write the SQL statements required to create the preceding relations, including appropriate versions of all primary and foreign key integrity constraints.
   b) Define the Dept relation in SQL so that every department is guaranteed to have a manager.
   c) Write an SQL statement to give every employee a 10 percent raise.