In-class Exercises: Entity/Relationship Model

1. Translate this Entity-Relationship diagram into a relational schema. For each relation, provide its name, attributes and keys. To indicate a key, underline all attributes that are part of the key using a single line. Also include all referential integrity constraints. To answer this question, use relational notation, not SQL notation.

```
Solution:
car(VIN, model, year)
customer(name, email, phone)
salesperson(sID, sName, dID, salary)
dealership(dID, dName)
sale(name, email, sID, VIN, date, amount)
```

However, as you might notice, this does not enforce the 0:1 relationship for Car. A better idea would be to set the key to just the VIN number in this particular case.

```
car(VIN, model, year)
customer(name, email, phone)
salesperson(sID, sName, dID, salary)
dealership(dID, dName)
sale(VIN, name, email, sID, date, amount)
```
2. What would happen if we the customer’s phone attribute had (1,N) cardinality? What would the relational schema look like?

Solution:

car(VIN, model, year)
customer(name, email)
phone(name, email, phone)
salesperson(sID, sName, dID, salary)
dealership(dID, dname)
sale(VIN, name, email, sID, date, amount)