Assignments #4– Sample Solutions

9.4 - Figure 9.8 shows an ER schema for a database that may be used to keep track of transport ships and their locations for maritime authorities. Map this schema into a relational schema, and specify all primary keys and foreign keys.

Answer:

SHIP
SNAME OWNER TYPE PNAME
SHIP_TYPE
TYPE TONNAGE HULL
STATE_COUNTRY
NAME CONTINENT
SEA OCEAN LAKE
NAME
SHIP MOVEMENT
SSNAME DATE TIME LONGITUDE LATITUDE
PORT
S_C_NAME PNAME S_O_L_NAME
VISIT
VSNAME VPNAME STARTDATE ENDDATE
f.k.
f.k.
f.k.
f.k.
f.k.

9.5 - Map the BANK ER schema of Exercise 7.23 (shown in Figure 7.21) into a relational schema. Specify all primary keys and foreign keys. Repeat for the AIRLINE schema (Figure 7.20) of Exercise 7.19 and for the other schemas for Exercises 7.16 through 7.24.

Partial Answer:

BANK
CODE NAME ADDR
ACCOUNT
ACCTNO BALANCE TYPE BCODE BNO
CUSTOMER
<table>
<thead>
<tr>
<th>SSN</th>
<th>NAME</th>
<th>PHONE</th>
<th>ADDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAN</td>
<td>LOANNO</td>
<td>AMOUNT</td>
<td>TYPE</td>
</tr>
<tr>
<td>BCODE</td>
<td>BNO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BANK_BRANCH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCODE</td>
<td>BRANCHNO</td>
<td>ADDR</td>
<td></td>
</tr>
</tbody>
</table>

A_C

SSN ACCTNO

L_C

SSN LOANNO

f.k.

f.k. f.k.

f.k.

f.k. f.k.

f.k.

f.k. f.k.