MySQL Practical:

```
CREATE DATABASE mysqldb;
USE mysqldb;

CREATE TABLE TRANSACTIONS(
CustomerID int NOT NULL,
State varchar(10) NOT NULL,
TransactionTime int NOT NULL,
CONSTRAINT PrimKey PRIMARY KEY(CustomerID, State, TransactionTime)
);

CREATE TABLE Customer(
CustomerID int NOT NULL PRIMARY KEY,
Name varchar(20)
);

CREATE TABLE State_ID(
State varchar(10) NOT NULL PRIMARY KEY,
State_ID int
);

CREATE TABLE State_Country(
State varchar(10) NOT NULL PRIMARY KEY,
Country varchar(20) NOT NULL
);

ALTER TABLE TRANSACTIONS
ADD FOREIGN KEY (STATE)
REFERENCES State_ID(State);

ALTER TABLE TRANSACTIONS
ADD FOREIGN KEY (CustomerID)
REFERENCES Customer(CustomerID);

INSERT INTO Customer
VALUES (1, 'Harry');
INSERT INTO Customer
VALUES (2, 'Morris');
INSERT INTO Customer
VALUES (3, 'John');
INSERT INTO Customer
VALUES (4, 'Harry');
```

```
INSERT INTO State_ID
VALUES ('NJ', 6);
INSERT INTO State_ID
VALUES ('PA', 5);
INSERT INTO State_ID
VALUES ('NSW', 8);

INSERT INTO State_Country
VALUES ('NJ', 'USA');
INSERT INTO State_Country
VALUES ('PA', 'USA');
INSERT INTO State_Country
VALUES ('NSW', 'AU');

INSERT INTO TRANSACTIONS
VALUES (1, 'NJ', 100);
INSERT INTO TRANSACTIONS
VALUES (1, 'NJ', 200);
INSERT INTO TRANSACTIONS
VALUES (2, 'PA', 300);
INSERT INTO TRANSACTIONS
VALUES (3, 'NSW', 400);
INSERT INTO TRANSACTIONS
VALUES (5, 'NSW', 500); # will not work since no customer with ID 5
INSERT INTO TRANSACTIONS
VALUES (4, 'NSW', 500);

Select * from Customer;
Select * from State_ID;
Select * from State_Country;
Select * from TRANSACTIONS;
```

MongoDB Practical:

For MacOS users, use this command on terminal to use Mongo:
brew services start mongodb-community

Also, refer to command_guide for syntax and basic CRUD commands.

```
use olapdb
db.createCollection('analytics')
db.analytics.insertMany([{'name': 'pratiksha', 'donation': 2, 'year': 2020}, {'name': 'ameesha',
'ann_salary': 32000, 'donation': 1, 'state': 'NJ', 'year': 2020}, {'name': 'bhavna', 'ann_salary':
```

36000, 'age': 23, 'donation': 3, 'year': 2020}, {'name': 'bhavna', 'ann_salary': 46000, 'donation': 1, 'state': 'PA', 'year': 2019}])
db.analytics.aggregate([{$group:{_id: { name:'$name', year:'$year' },ounces: { $sum: '$donations' },count: { $sum: 1 }}}])