In-class activity (9/12/2024)

1. Convert each of the three sets of tables on the following page to tables. Provide a sample row for each table, and circle each one's key(s).

2. The following table contains all the statistics for individual performances in UMW women's soccer matches this season. Each row is one player's performance in a game. What functional dependencies do you see in this table? What is its key(s)? (Note: soccer is incredibly tiring. Teams never play more than one match a day.)
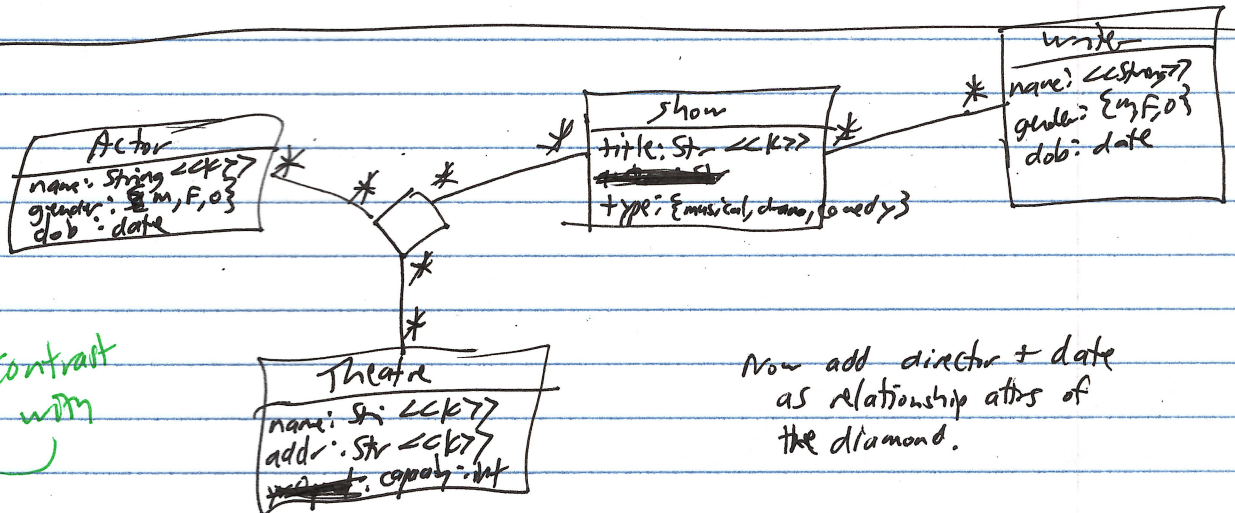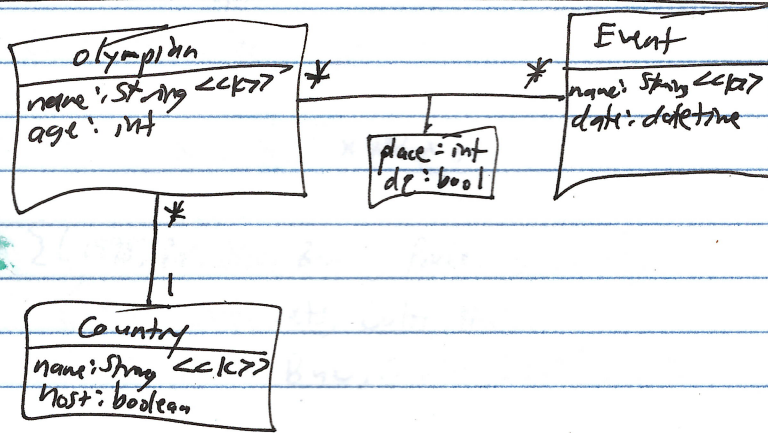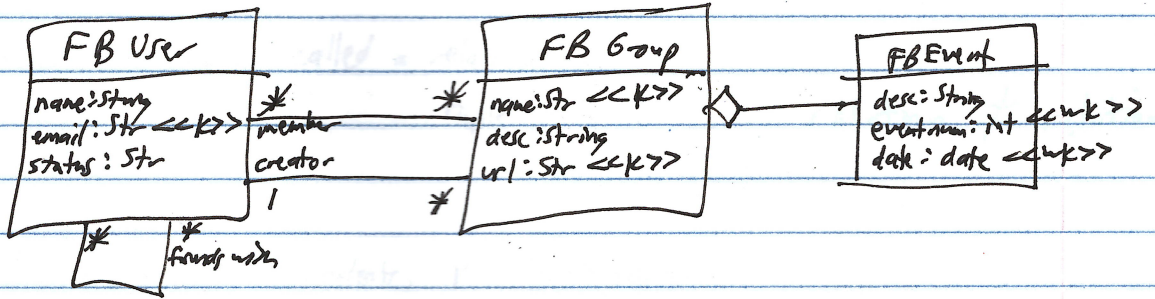
```
YR  UNI POS  NAME       DATE   OPPONENT  MASCOT         LOC   GOALS  ASSTS
-------------------------------------------------------------------------
Sr  11   M   Franklin   8/30    RMC      Yellowjackets  Away   1      0
Sr  10   F   Imanverdi  9/1    Penn St   Nittany Lions  Away   0      0
Jr  13   D   Shaw       9/7    Rutgers   Raptors        Home   0      0
Sr  11   M   Franklin   9/7    Rutgers   Raptors        Home   1      0
So   7   F   Landel     8/30    RMC      Yellowjackets  Away   0      2
              . . . m a n y   o t h e r   r o w s . . .
```

3. A table called X has attributes A, B, and C. The following functional dependencies exist in this table:

- {B} → {C}
- {B} → {A}

(a) Specify a key for table X.

(b) Is table X normalized? Why or why not?

4. A table called Y has attributes A, B, and C. The following functional dependency exists in this table:

- {B,C} → {A}

(a) Specify a key for table Y.

(b) Is table Y normalized? Why or why not?

5. A table called Z has attributes A, B, and C. The following functional dependency exists in this table:

- {C} → {A}

(a) Specify a key for table Z.

(b) Is table Z normalized? Why or why not?

More practice converting to tables:

FB User

name: String
email: Str <<k>>
status: Str

member
creator
friends with

FB Group

name: Str <<k>>
desc: String
url: Str <<k>>

FB Event

desc: String
eventnum: int <<wk>>
date: date <<wk>>

Olympian

name: String <<k>>
age: int

place: int
dq: bool

Event

name: String <<k>>
date: datetime

Country

name: String <<k>>
host: boolean

Actor

name: String <<k>>
gender: {m, F, o}
dob: date

Show

title: Str <<k>>
~~: Str~~
type: {musical, drama, comedy}

Writer

name: <<String>>
gender: {m, F, o}
dob: date

Contract
with

Theatre

name: Str <<k>>
addr: Str <<k>>
~~event~~ capacity: int

Now add director + date as relationship attrs of the diamond.