

# **COMP23111**

Academic year 2016 ~ 2017

**Exercise Number: EX02**

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Manager (manager\_ID,name) :  
pk[manager\_ID]

ManPhone (manager\_ID,telephone) :  
pk[manager\_ID,telephone],  
fk[manager\_ID -> Manager.manager\_ID]

Artist (artistic\_name,genre,managedBy) :  
pk[artistic\_name],  
fk[managedBy -> Manager.manager\_ID]

GroupArtist (artistic\_name,genre,date\_formed) :  
pk[artistic\_name],  
fk[artistic\_name -> Artist.artistic\_name]

SoloArtist (artistic\_name,genre,real\_name,performs\_since) :  
pk[artistic\_name],  
fk[artistic\_name -> Artist.artistic\_name]

HasMember (date\_joined,artistic\_name,artistic\_name) :  
pk[date\_joined],  
fk[artistic\_name -> GroupArtist.artistic\_name,  
artistic\_name -> SoloArtist.artistic\_name]

Album (album\_ID,title,createdBy) :  
pk[album\_ID],  
fk[createdBy -> Artist.artistic\_name]

VinylAlbum (album\_ID, title) :  
pk[album\_ID],  
fk[album\_ID -> Album.album\_ID,  
createdBy -> Artist.artistic\_name]

VinylColour (album\_ID,colour) :  
pk[album\_ID],  
fk[album\_ID -> Album.album\_ID,  
createdBy -> Artist.artistic\_name]

TapeAlbum (album\_ID,title,label) :  
pk[album\_ID],  
fk[album\_ID -> Album.album\_ID,  
createdBy -> Artist.artistic\_name]

CDAAlbum (album\_ID,title) :  
pk[album\_ID],  
fk[album\_ID -> Album.album\_ID,  
createdBy -> Artist.artistic\_name]

CDEExtra (album\_ID,extra) :  
pk[album\_ID],  
fk[album\_ID -> Album.album\_ID,  
createdBy -> Artist.artistic\_name]

HasTrack (album\_ID,version,sequence) :  
pk[sequence],

fk[album\_ID -> Album.album\_ID,  
version -> FinishedTrack.version]

MasterTrack (trac\_ID,working\_title,working\_length,recordedBy,editedBy) :  
pk[track\_ID],  
fk[recordedBy -> Artist.artistic\_name,  
editedBy -> SoundEngineer.sound\_eng\_id]

SoundEngineer (sound\_eng\_ID,name) :  
pk[sound\_eng\_ID]

ContractInfo (hasContract,date\_from,date\_to,  
duration [derived as (date\_to - date\_from)]) :  
pk[hasContract,date\_from,date\_to],  
fk[hasContract -> Artist.artistic\_name]

FinishedTrack (originatesFrom,version,released\_title,final\_length) :  
pk[originatesFrom,version],  
fk[originatesFrom -> MasterTrack.track\_ID]

CatalogueEntry (listedAs,release\_date,stock,price) :  
pk[listedAs,release\_date],  
fk[listedAs -> Album.album\_ID,  
comprises -> Orders.order\_number]

Orders (order\_number,placed\_on,dispatch\_date) :  
pk[order\_number],  
fk[placedBy -> Buyer.buyer\_ID,  
comprises -> CatalogueEntry.release\_date]

comprises (order\_number,release\_date) :  
fk[order\_number -> Orders.order\_number,  
release\_date -> CatalogueEntry.release\_date]

Buyer (buyer\_ID,name,registered\_on) :  
pk[buyer\_ID]

## COMMENTS

- Every relational model needs at least one primary key
- If cardinality ratio is 1 : 1, add all of the key and attributes to each of relational model of the two.
- If cardinality ratio is 1 : m, add all of the key and attributes to the relational model which cardinality ratio is m.
- If cardinality ratio is n : m, create a relational model of the relationship, add it's own attributes and the other two relational models's key to the new one.
- Notice where the foreign key point to.