45 Databases 2015 Answers

1. SELECT name,

year

FROM festival;

1. SELECT *Count*(\*)

FROM musician;

1. SELECT festivalname,

bandname,

stagename,

musicianname

FROM performs

NATURAL JOIN member

ORDER BY performancedate,

performancetime ASC;

1. SELECT p.bandname,

p.stagename,

p.performancedate,

p.performancetime

FROM performs p

WHERE p.festivalname = ‘Glastonbury’

1. SELECT bandname,

festivalname

FROM performs

WHERE festivalyear = 2016

ORDER BY bandname;

1. SELECT bandname,

festivalname,

Festivalyear

FROM band

LEFT JOIN (SELECT \*

FROM performs

WHERE festivalyear = 2012)

ON bandname = band.name;

1. SELECT name

FROM band

WHERE name NOT IN (SELECT bandname

FROM performs

WHERE festivalyear = 2012);

1. SELECT DISTINCT festivalname

FROM performs

EXCEPT

(SELECT festivalname

FROM performs

WHERE bandname = 'Arctic Monkeys' and festivalyear = 2012);

1. SELECT name,

attendance

FROM festival

WHERE attendance = (SELECT *Max*(attendance)

FROM festival );

2. a. Boring question (but what is

the answer :/ ) - Done :)

Person(name, date\_of\_birth, place\_of\_birth)

place\_of\_birth references city.name

Phone(name, number)

name references person.name

Lives(person\_name, city)

person\_name references person.name on delete cascade

city references city.name on delete cascade

City(name)

Actor(name, school name, school year)

name references person.name

Writer(name)

name references person.name

Director(name, school)

name references person.name

Production\_company(name, no\_of\_employees)

Employs(actor\_name, company)

actor\_name references actor.name on delete cascade

company references production\_company.name on delete cascade

Play(title, length, writer\_name)

writer\_name references writer.name

Plays(name, title)

name references actor.name on delete cascade

title references play.title on delete cascade

Directs(title, director\_name, company)

title references play.title on delete cascade

director\_name references director.name on delete cascade

company references production\_company.name on delete cascade

Drama(title)

title references play.title

Comedy(title)

title references play.title

Tragedy(title)o

title references play.title

Act(number, title)

title references tragedy.title on delete cascade

I cba.

b.

(i) {A,B,C} ∩ {A,D,E} = A

A → BC so A → ABC so A → A,B,C therefore lossless-join decomposition.

(ii) A → ABCDE, B → BD, C → C, D → D, E → ABCDE, AB → ABCDE, AC → ABCDE, AD → ABCDE, AE → ABCDE, BC → ABCDE, BD → BD, BE → ABCDE, CD → ABCDE, CE → ABCDE, DE → ABCDE, ABC → ABCDE, ABD → ABCDE, ABE → ABCDE, ACD → ABCDE, AC E → ABCDE, ADE → ABCDE, BCD → ABCDE, BCE → ABCDE, BDE → ABCDE, CDE → ABCDE, ABCD →ABCDE, BCDE → ABCDE, ACDE → ABCDE, ABDE → ABCDE, ABCE → ABCDE, ABCDE → ABCDE

Candidate keys for R are {A}, {E}, {C,D}, {B,C}

“We are mostly interested in superkeys for which there is no proper subset of the

superkey (Irreducibility property). Such a minimal superkey is called a candidate

key (or just a key).” from notes so candidate keys are {A} and {E} BAM.

(iii)

A → BC,

CD → E

B → D

E x → A

This is already a canonical cover? (I think - let me know if I’ve missed anything)

Yes it is

HELL YEAH IT IS

WAHEY

WOOHOO

If in doubt right the question LOL

Cover is also

A -> B

A -> C

CD -> E

B -> D

E -> A

But that’s kinda the same thing lol