

# Final Exam Review qs

Bilal Khan

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## 1 Q 2

1.  $EventID \rightarrow EventName, EventWebLink, JournalName, Publisher$
2.  $JournalISBN \rightarrow JournalName$
3.  $R_1(EventID, EventName, EventWebLink, JournalISBN, Publisher)$   
 $R_2(JournalISBN, JournalName).$

## 2 Q 3

Apparently no b/c 2nf??

### 3 Q 4

1.  $ContractID \rightarrow CustomerID, ServiceAddress, ServiceType, StartDate$   
 $CustomerID \rightarrow ServiceAddress$   
 $StartDate \rightarrow ServiceType$  (? not sure about this b/c start date being null or not determines service type)
2.  $ContractID$  is the obvious choice?

### 4 Q 5

1. (b) each record takes  $15 + 2 + 10 + 10 = 37bytes$ . each block can store  $\lfloor 512/37 \rfloor = 13$  records. you need  $5000/13 = 385$  blocks to store all the records.
2. (c) essentially just linear searching so all the blocks.
3. (d) same as (c)

### 5 Q 2

1. (a) 3nf i think
2. (b) todo
3. (c) yes.  $p \rightarrow cx$  from primary key.  $c \rightarrow px$  from c being a candidate key. they dont satisfy 3nf and you can use armtrongs axioms to get a transitive dependency?

### 6 Q 3

yes, e.g.  $X \rightarrow C_1$ .  $C_1 - X \in \{P, C_1, C_2\}$  but  $C \notin \{P, C_1, C_2\}$ .

### 7 ? third last slide

1. (i) super key.
2. (ii) candidate key and super key.

### 8 Q 8

will it error is someOtherColumn is null and you try to do a comparision on it?

## 9 Q 9

true.

## 10 Q 4

(b)

```
select distinct product.model from (select pc.model, pc.price from pc
↪ union all select printer.model, printer.price from printer) as
↪ product_type inner join product on product.model = product_type.model
↪ order by product.price desc limit 1;
```