

Writing exam sample

1. e

INTERSECT
UNION } eliminate
duplicates

2. d

3. c, d

it has been specified \neq satisfies

4. a, c

5. b

6. c

a) manages space on disk \rightarrow Disk Space manager

b) Buffer Manager

d) Lock Manager

7. b

8. c

max 7
 $\text{ceil}(7/2) = 4$ } subtrees
7 - 3 = 4 and 7 - 1 = 6
(at least) (at most)

9. a, b, c

select subquery \Rightarrow scalar value

10. a, b, c

— all fields are prime attributes satisfies 2NF and 3NF
no repeated attributes satisfies 1NF

▪ $\{A\} \setminus \{A, B\} = \{A\}$, but A is prime and belongs to the
CK $\{B, C, D, E\} \Rightarrow$ in 3NF

• $\{A, B\}$ not superkey, neither A or B are keys \Rightarrow not in BCNF

11. c