CHAPTER 1 DISCUSSIONS

Discussion 1-1 (Exercise 1.7)

- List four applications you have used that most likely employed a database system to store persistent data. (other than the ones mentioned in class)

Discussion 1-2 (Exercise 1.9)

- Explain the concept of *physical data independence*, and its importance in database systems.

Discussion 1-3 (Exercise 1.12)

A. Describe the information content represented by the table in Figure 1.4.

B. Explain what problems may arise by this design.

ID	*name*	*salary*	*dept_name*	*building*	*budget*
22222	Einstein	95000	Physics	Watson	70000
12121	Wu	90000	Finance	Painter	120000
32343	El Said	60000	History	Painter	50000
45565	Katz	75000	Comp. Sci.	Taylor	100000
98345	Kim	80000	Elec. Eng.	Taylor	85000
76766	Crick	72000	Biology	Watson	90000
10101	Srinivasan	65000	Comp. Sci.	Taylor	100000
58583	Califieri	62000	History	Painter	50000
83821	Brandt	92000	Comp. Sci.	Taylor	100000
15151	Mozart	40000	Music	Packard	80000
33456	Gold	87000	Physics	Watson	70000
76543	Singh	80000	Finance	Painter	120000

Figure 1.4 The *faculty* table.

Discussion 1-4

A. Describe at least 5 tables that might be used to store information in an online social communication system such as *KakaoTalk*.
B. What would be the top queries issued to these tables by the application?

Discussion 1-5

- If the data in the previous problem were kept in a file system (without the use of a DBMS), describe a situation where things may go wrong.

Discussion 1-6 (Exercise 1.6)

- Keyword queries used in *Web search* are quite different from database queries. List key differences between the two, in terms of the way the queries are specified, and in terms of what is the result of a query.