資料庫管理 HW02

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1. (a)
   i. **TRUE**, because `DEAN` is a **relation** between `COLLEGE` and `INSTRUCTOR`; and `CHAIR` is a **relation** between `DEPT` and `INSTRUCTOR`.

   ii. **FALSE**, there's no further restriction on `DEAN` and `CHAIR`, so one `INSTRUCTOR` can be a `CHAIR` and a `DEAN` at the same time.

   iii. **TRUE**, the relation between `STUDENT` and `HAS` is a **(0, 1)** relation, so one `STUDENT` can `HAS` zero or one `DEPT`.

   iv. **TRUE**, the cardinality between `STUDENT` and `TAKES` is **(0, N)**, so one student may take zero or more sections; while the cardinality between `SECTION` and `TAKES` is **(5, N)**, so one section must be taken by five or more students.

   v. **TRUE**, the cardinality between `COURSE` and `SECTION` is **(1, 1)**, so one section must be related to exactly one course.

   (b) As the following diagram:

   INSTRUCTOR

Id	IName	Rank	IOffice	IPhone

   COLLEGE

CName	CPhone	COffice

   DEPT

DName	DCode	DOffice	DPhone

   STUDENT