Students

stud_id	stud_name
1234	John Smith
9555	Peter

Subjects

subj_code	subj_title
ITM2005	System Architecture
ACS1005	Data Mgmt
PRG1001	Programming I

Convenor

Staff_id	Convenor
111	Bob Hauser
222	Jane Collins
111	Bob Hauser
333	Ahmad Singh

Results

stud_id	subj_code	Sem	Year	staff_id	grade	Mark
1234	ITM2005	1	2015	111	83	D
1234	ACS1005	2	2015	222	44	N
9555	ITM20005	1	2015	111	95	HD
9555	PRG1001	2	2015	333	65	C

To achieve third normal form, all fields (columns) can be determined only by the key in the table and no other key. In this task, staff_id and convenor were used to make a new table called Convenor. This is because they had an indirect relationship that causes functional dependency, known as transitive dependency. What this essentially means is that changes to one non-primary attribute will influence another non-primary attribute. For example, if Bob Hauser stopped System Architecture, you will have to make changes to staff_id column, and the convenor column because it's dependent on staff_id. It becomes harder to make such changes, especially if the convenor teaches more than one subject. To avoid these complications, a new table is created, leaving staff_id in the Results table as a foreign key. Now if the convenor of a subject changes, we only need to make changes to the staff_id in the Results table.