

## Related tables and keys for Database simpsons

id	name	email	id	name	id	name	teacher_id	student_id	course_id	grade
123	Bart	bart@fox.com	1234	Krabappel	10001	Computer Science 142	1234	123	10001	B-
456	Milhouse	milhouse@fox.com	5678	Hoover	10002	Computer Science 143	5678	123	10002	C
888	Lisa	lisa@fox.com	9012	Obourn	10003	Computer Science 154	9012	456	10001	B+
404	Ralph	ralph@fox.com			10004	Informatics 100	1234	888	10002	A+
								888	10003	A+
								404	10004	D+

students

teachers

courses

grades

- **primary key:** a column guaranteed to be unique for each record (e.g. Lisa Simpson's ID 888)
- **foreign key:** a column in table A storing a primary key value from table B
  - (e.g. records in grades with student\_id of 888 are Lisa's grades)
- **normalizing:** splitting tables to improve structure / redundancy (linked by unique IDs)

## Our project's database: imdb

id	first_name	last_name	gender	id	name	year	rank	actor_id	movie_id	role
433259	William	Shatner	M	112290	Fight Club	1999	8.5	433259	313398	Capt. James T. Kirk
797926	Britney	Spears	F	209658	Meet the Parents	2000	7	433259	407323	Sgt. T.J. Hooker
831289	Sigourney	Weaver	F	210511	Memento	2000	8.7	797926	342189	Herself
...				...				...		

  

movie_id	genre
209658	Comedy
313398	Action
313398	Sci-Fi
...	

  

id	first_name	last_name
24758	David	Fincher
66965	Jay	Roach
72723	William	Shatner
...		

  

director_id	movie_id
24758	112290
66965	209658
72723	313398
...	

actors

movies

roles

movies\_genres

directors

movies\_directors