

Databases: Relational Algebra

Last	First
Potter	Harry
Granger	Hermione
Weasley	Ron
Longbottom	Neville
Malfoy	Draco

Students

Gryffindors

Last	First
McGonagall	Minerva
Snape	Severus
Longbottom	Neville
Dumbledore	Albus

Professors

Last	First
Potter	Harry
Granger	Hermione
Weasley	Ron
McGonagall	Minerva
Longbottom	Neville
Dumbledore	Albus

Name	ID	Major	Age
Alice	1	CS	18
Bob	2	Math	20
Carol	3	CS	19
Dan	4	CS	20
Eva	5	Math	21
Frank	6	Physics	18

Students
Key = ID

CRN	Dept	CourseName	Seats
101	CS	Databases	20
102	CS	Discrete Structures	15
103	CS	Graphics	25
104	Math	Linear Algebra	18
105	Math	Differential Equations	20
106	Music	Piano Lessons	10
107	Physics	Optics	16
108	Music	Music Theory	21
109	Physics	Modern Physics	15
110	Math	Number Theory	20

Courses
Key = CRN

Enrolled
Key = (ID, CRN)

ID	CRN
1	101
1	102
2	104
2	105
3	101
3	104
4	103
5	108
5	105
5	110
6	107
6	110
6	106

New Database!

Database schema:

Person(name, age, school)	name is a key
Frequents(name, pizzeria)	(name, pizzeria) is a key
Eats(name, pizza)	(name, pizza) is a key
Serves(pizzeria, pizza, price)	(pizzeria, price) is a key

school is either “Rhodes” or “U of M”

pizzeria is the name of a pizza restaurant (e.g., “Memphis Pizza Café,”
“Broadway Pizza,” etc)

pizza is a type of pizza (e.g., “pepperoni,” “cheese,” “pineapple,”...)

SQL

- courses (crn integer, year integer, name text, profLast text, startTime int, room text)
- grades(studentLast text, crn int, grade int)
- heads (house string, profLast string)
- profs (last string, first string)
- rooms (room text, maxseats int)
- students (last string, first string, house string, pet string)