CANVAS

BY INSTRUCTURE

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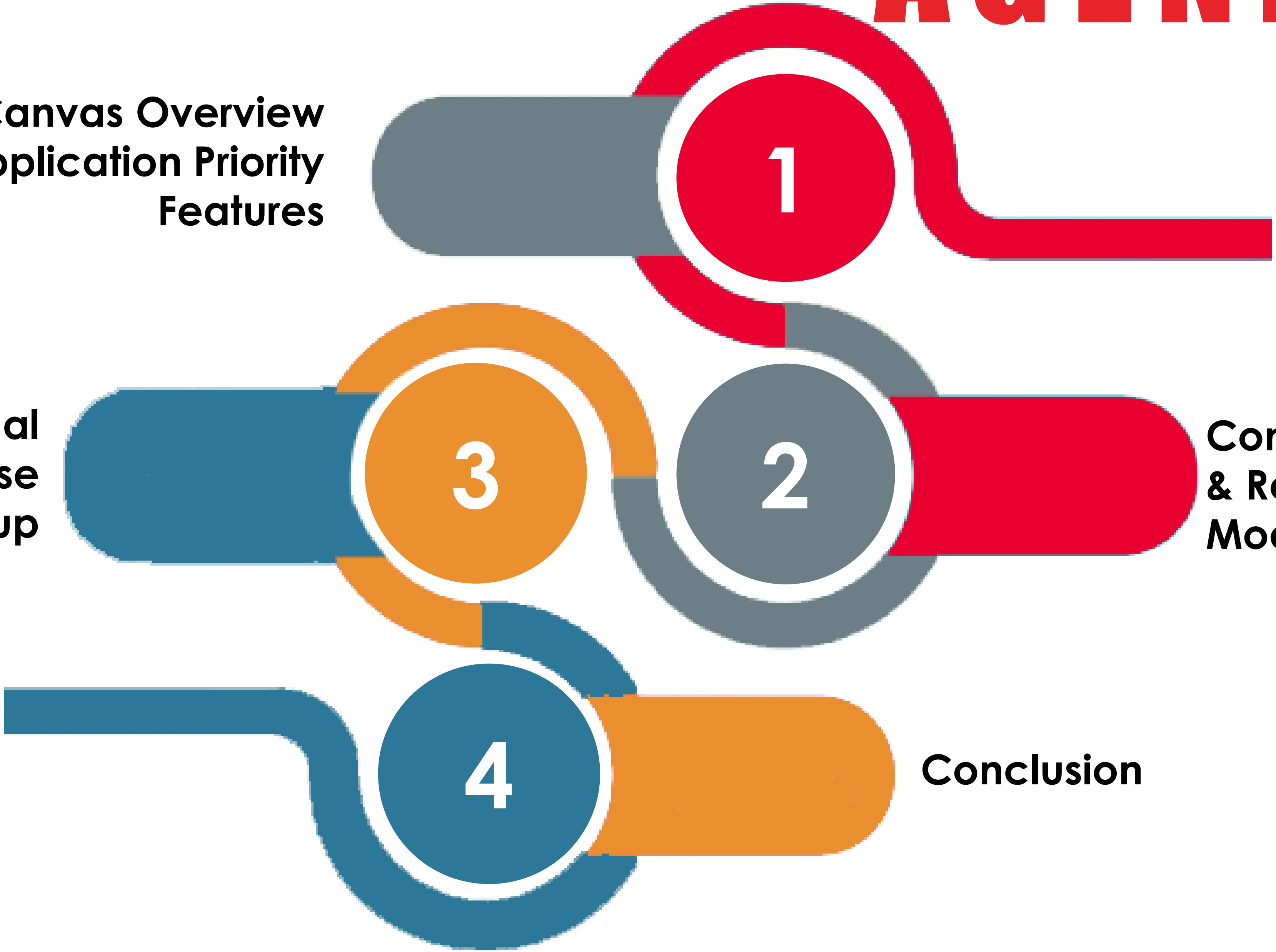
AGENDA



Canvas Overview
Application Priority
Features

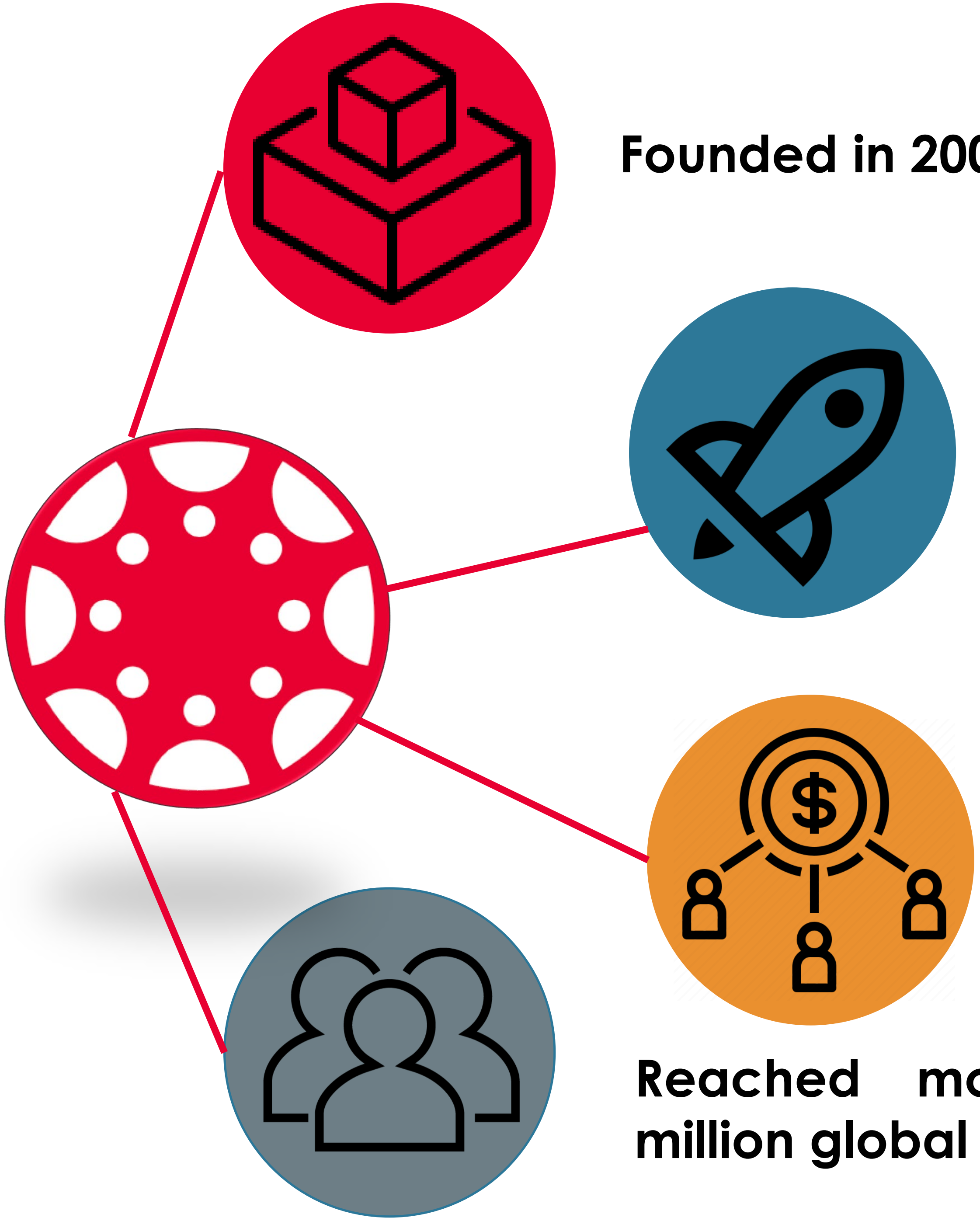
Conceptual
& Relational
Models

Physical
Database
Setup

Conclusion

OVERVIEW & FEATURES

OVERVIEW



Founded in 2008

Launched online courses for everyone, everywhere in 2012

Instructure went public on the NYSE (INST) in 2015

Reached more than 30 million global users in 2019

Learning management system to allow students to access their courses and groups using a mobile device.

FEATURES

Student account

Courses

Quizzes
Assignments
Grade
Announcements
Discussion Board

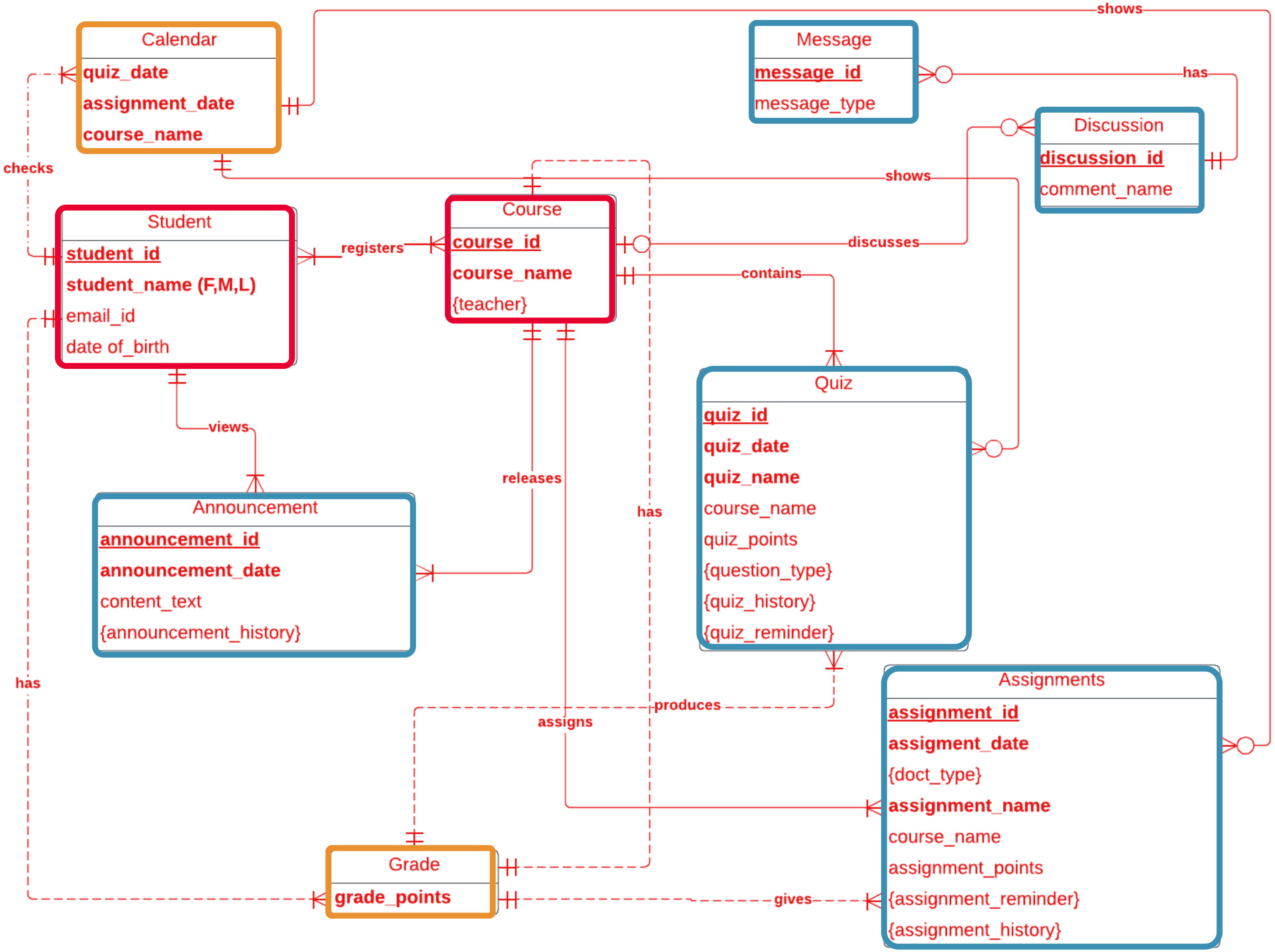
Calendar

Reminder

History

CONCEPTUAL &LOGICAL MODELS

CONCEPTUAL MODEL



Calendar
quiz_date
assignment_date
course_name

Message
message_id
message_type

Discussion
discussion_id
comment_name

Student
student_id
student_name (F,M,L)
email_id
date_of_birth

Course
course_id
course_name
{teacher}

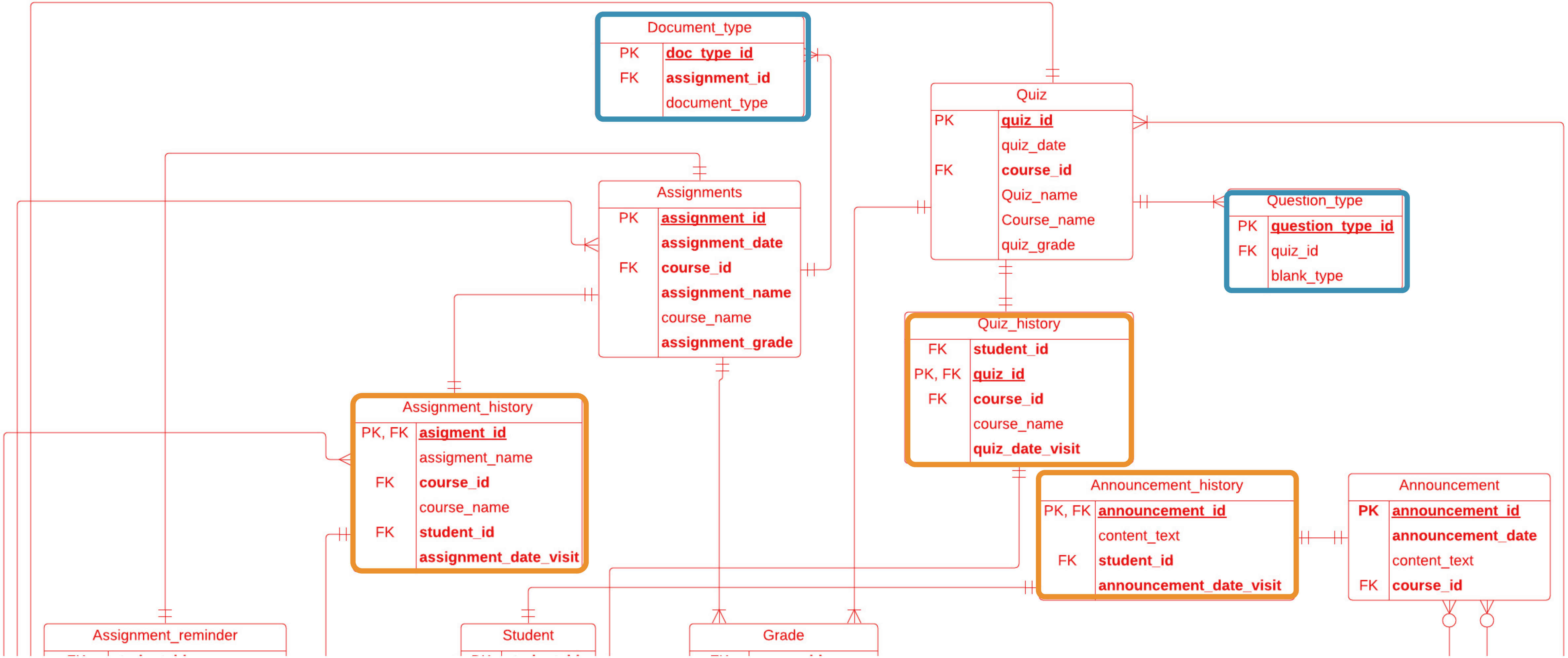
Quiz
quiz_id
quiz_date
quiz_name
course_name
quiz_points
{question_type}
{quiz_history}
{quiz_reminder}

Announcement
announcement_id
announcement_date
content_text
{announcement_history}

Assignments
assignment_id
assignment_date
{doct_type}
assignment_name
course_name
assignment_points
{assignment_reminder}
{assignment_history}

Grade
grade_points

LOGICAL MODEL



Document_type	
PK	**doc_type_id**
FK	**assignment_id**
	document_type

Quiz	
PK	**quiz_id**
	quiz_date
FK	**course_id**
	Quiz_name
	Course_name
	quiz_grade

Question_type	
PK	**question_type_id**
FK	quiz_id
	blank_type

Assignments	
PK	**assignment_id**
	assignment_date
FK	**course_id**
	assignment_name
	course_name
	assignment_grade

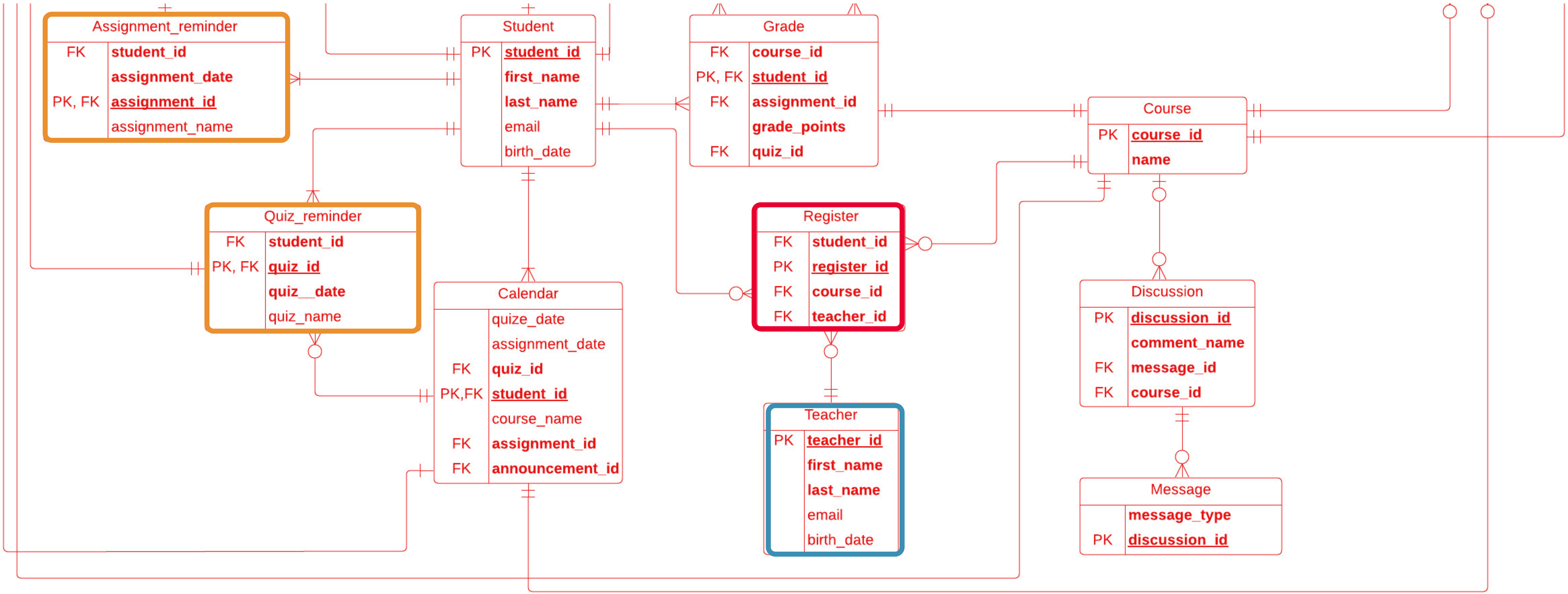
Quiz_history	
FK	**student_id**
PK, FK	**quiz_id**
FK	**course_id**
	course_name
	quiz_date_visit

Assignment_history	
PK, FK	**asigment_id**
	assigment_name
FK	**course_id**
	course_name
FK	**student_id**
	assignment_date_visit

Announcement_history	
PK, FK	**announcement_id**
	content_text
FK	**student_id**
	announcement_date_visit

Announcement	
PK	**announcement_id**
	announcement_date
	content_text
FK	**course_id**

LOGICAL MODEL



	Assignment_reminder
FK	**student_id**
	assignment_date
PK, FK	**assignment_id**
	assignment_name

	Student
PK	**student_id**
	first_name
	last_name
	email
	birth_date

	Grade
FK	**course_id**
PK, FK	**student_id**
FK	**assignment_id**
	grade_points
FK	**quiz_id**

	Course
PK	**course_id**
	name

	Quiz_reminder
FK	**student_id**
PK, FK	**quiz_id**
	quiz__date
	quiz_name

	Calendar
	quize_date
	assignment_date
FK	**quiz_id**
PK,FK	**student_id**
	course_name
FK	**assignment_id**
FK	**announcement_id**

	Register
FK	**student_id**
PK	**register_id**
FK	**course_id**
FK	**teacher_id**

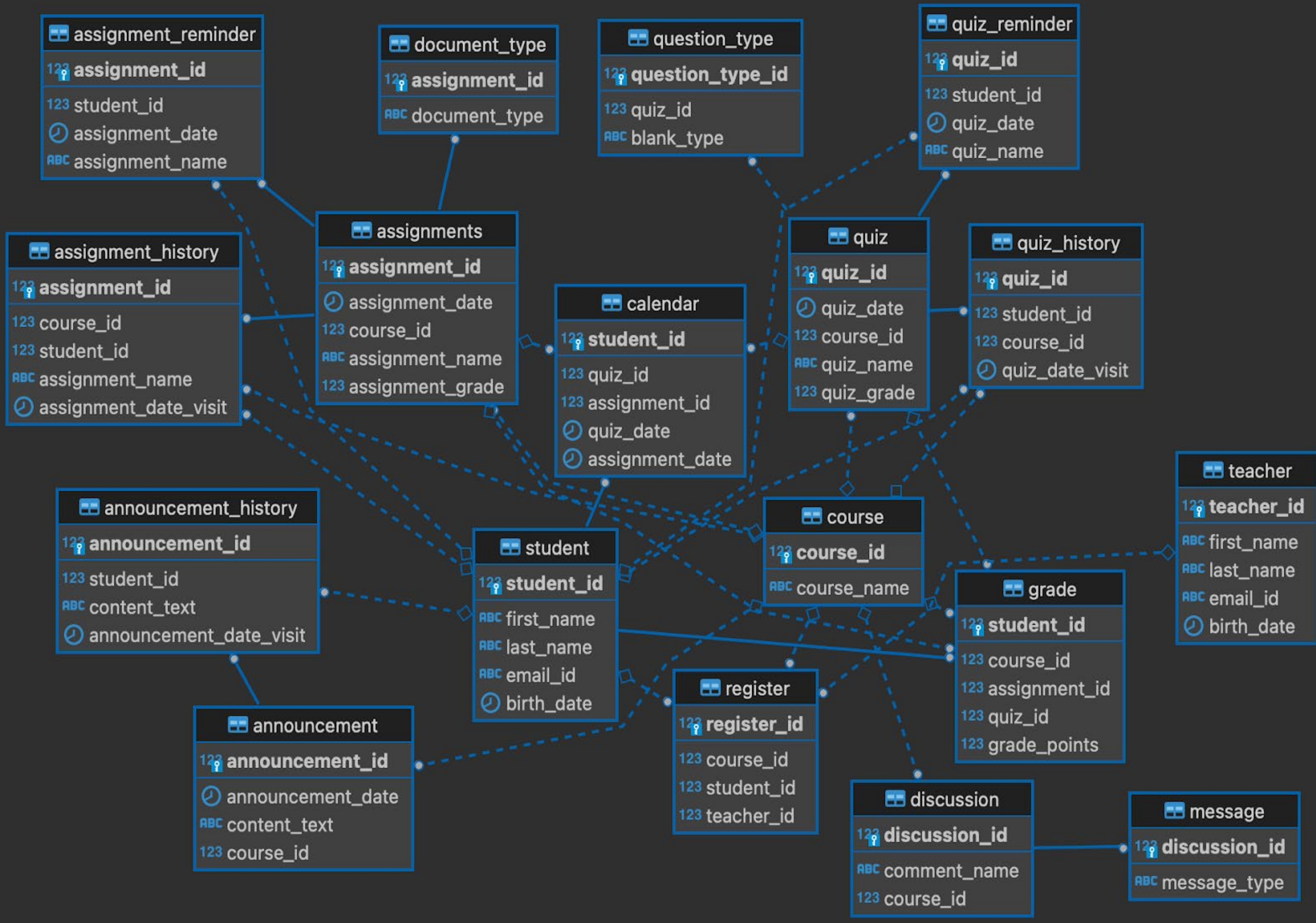
	Discussion
PK	**discussion_id**
	comment_name
FK	**message_id**
FK	**course_id**

	Teacher
PK	**teacher_id**
	first_name
	last_name
	email
	birth_date

	Message
	message_type
PK	**discussion_id**

PHYSICAL DATABASE SETUP

PHYSICAL MODEL



assignment_reminder
assignment_id
student_id
assignment_date
assignment_name

document_type
assignment_id
document_type

question_type
question_type_id
quiz_id
blank_type

quiz_reminder
quiz_id
student_id
quiz_date
quiz_name

assignment_history
assignment_id
course_id
student_id
assignment_name
assignment_date_visit

assignments
assignment_id
assignment_date
course_id
assignment_name
assignment_grade

calendar
student_id
quiz_id
assignment_id
quiz_date
assignment_date

quiz
quiz_id
quiz_date
course_id
quiz_name
quiz_grade

quiz_history
quiz_id
student_id
course_id
quiz_date_visit

teacher
teacher_id
first_name
last_name
email_id
birth_date

announcement_history
announcement_id
student_id
content_text
announcement_date_visit

student
student_id
first_name
last_name
email_id
birth_date

course
course_id
course_name

grade
student_id
course_id
assignment_id
quiz_id
grade_points

register
register_id
course_id
student_id
teacher_id

announcement
announcement_id
announcement_date
content_text
course_id

discussion
discussion_id
comment_name
course_id

message
discussion_id
message_type

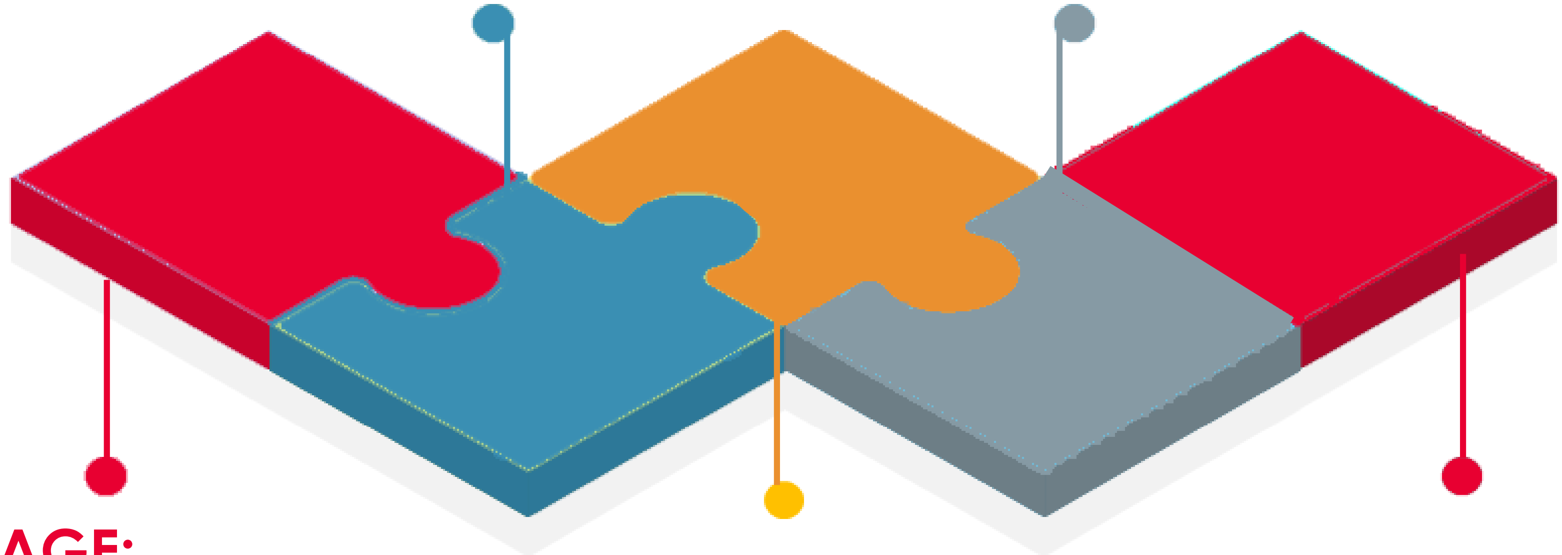
PHYSICAL DATABASE SETU P

- STUDENT
- COURSE

PRIMARY TABLES

- INTEGER
- VARCHAR
- DATE
- FLOAT

DATA TYPES



TOOLS /LANGUAGE:

- DBEAVER
- POSTRESS
- SQL

SECONDARY TABLES

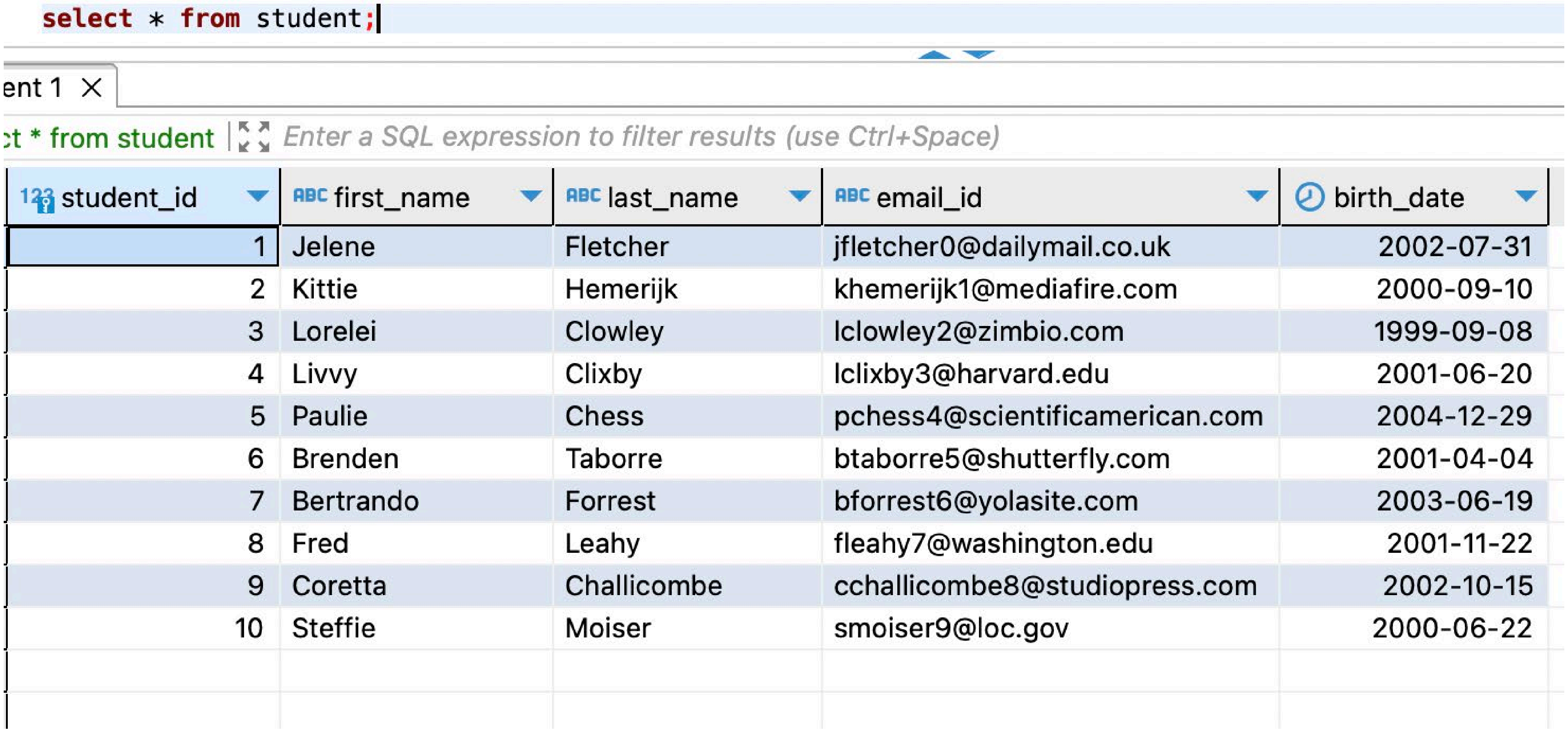
- TEACHER
- REGISTER
- GRADE
- ASSIGNMENT
- QUIZ
- ANNOUNCEMENT
- DISCUSSION
- REMINDER

COMANDS

- DROP
- CREATE
- SELECT
- INSERT

CONCLUSION

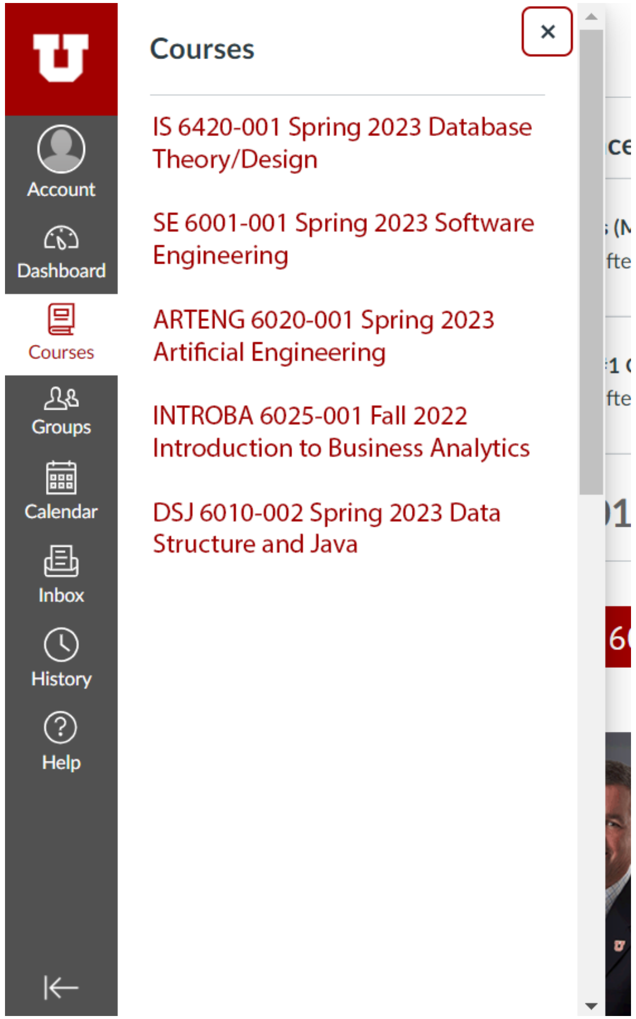
STUDENT



```
select * from student;
```

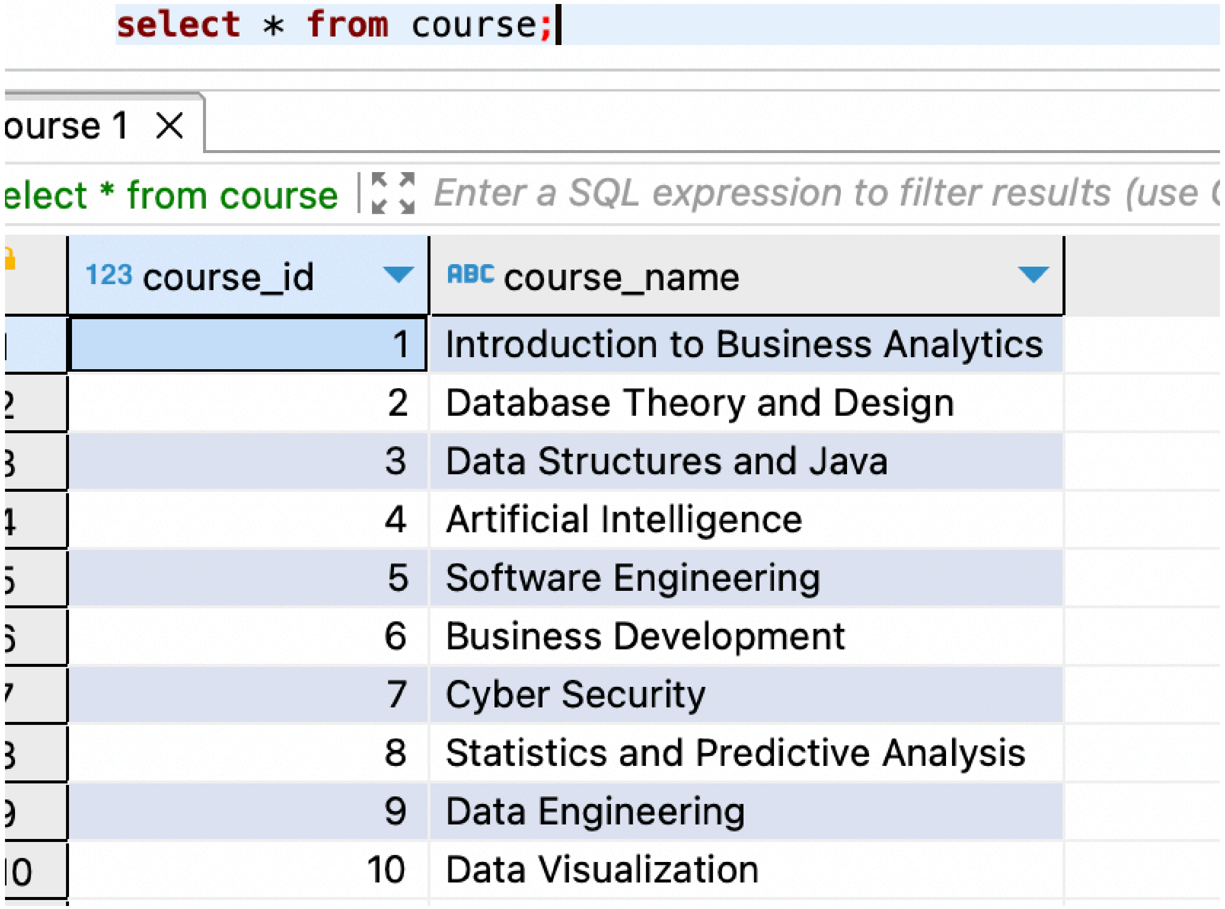
student_id	first_name	last_name	email_id	birth_date
1	Jelene	Fletcher	jfletcher0@dailymail.co.uk	2002-07-31
2	Kittie	Hemerijk	khemerijk1@mediafire.com	2000-09-10
3	Lorelei	Clowley	lclowley2@zimbio.com	1999-09-08
4	Livvy	Clixby	lclixby3@harvard.edu	2001-06-20
5	Paulie	Chess	pchess4@scientificamerican.com	2004-12-29
6	Brenden	Taborre	btaborre5@shutterfly.com	2001-04-04
7	Bertrando	Forrest	bforrest6@yolasite.com	2003-06-19
8	Fred	Leahy	fleahy7@washington.edu	2001-11-22
9	Coretta	Challicombe	cchallicombe8@studiopress.com	2002-10-15
10	Steffie	Moiser	smoiser9@loc.gov	2000-06-22

COURSE



Courses

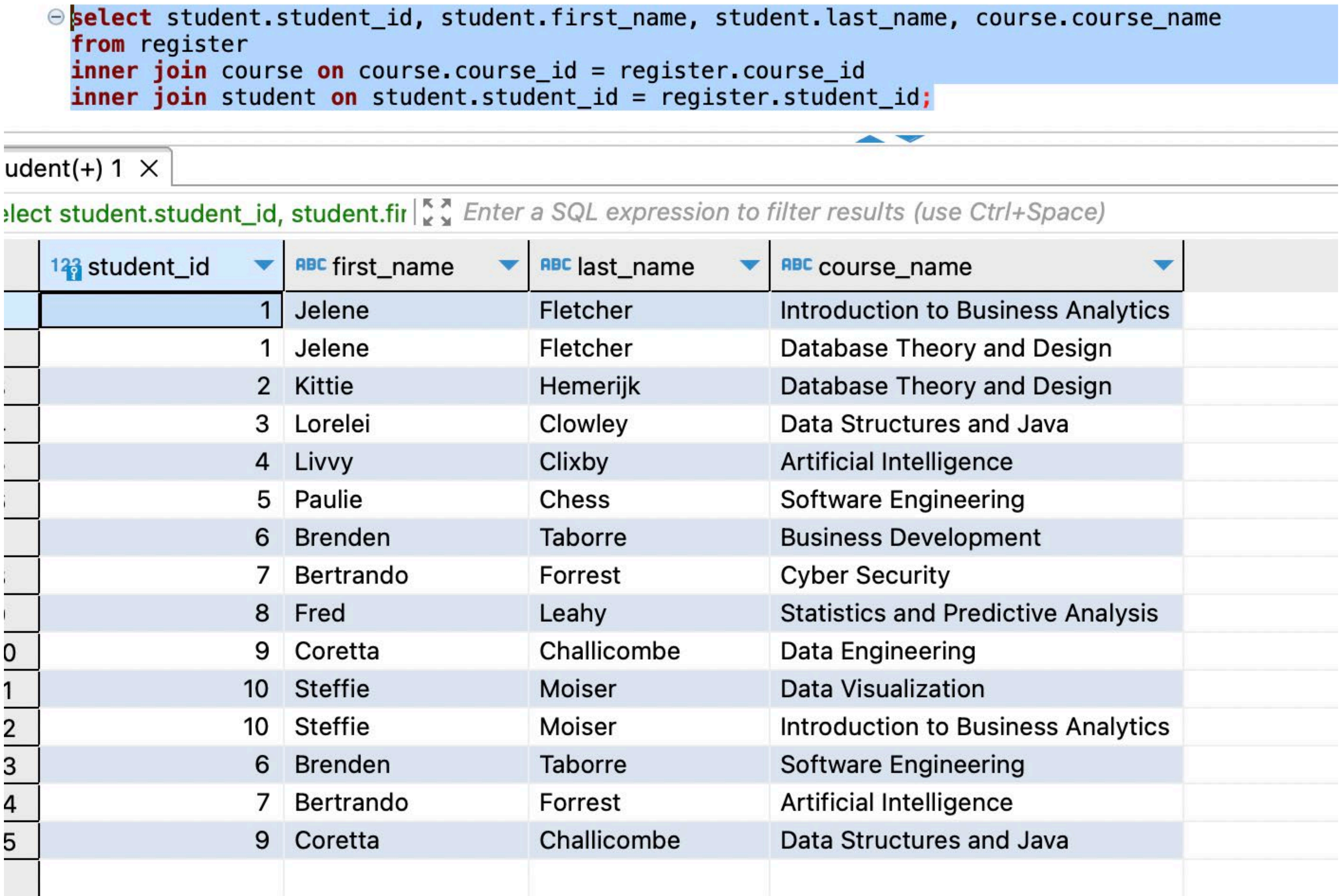
- IS 6420-001 Spring 2023 Database Theory/Design
- SE 6001-001 Spring 2023 Software Engineering
- ARTENG 6020-001 Spring 2023 Artificial Engineering
- INTROBA 6025-001 Fall 2022 Introduction to Business Analytics
- DSJ 6010-002 Spring 2023 Data Structure and Java



```sql
select * from course;
```

course_id	course_name
1	Introduction to Business Analytics
2	Database Theory and Design
3	Data Structures and Java
4	Artificial Intelligence
5	Software Engineering
6	Business Development
7	Cyber Security
8	Statistics and Predictive Analysis
9	Data Engineering
10	Data Visualization

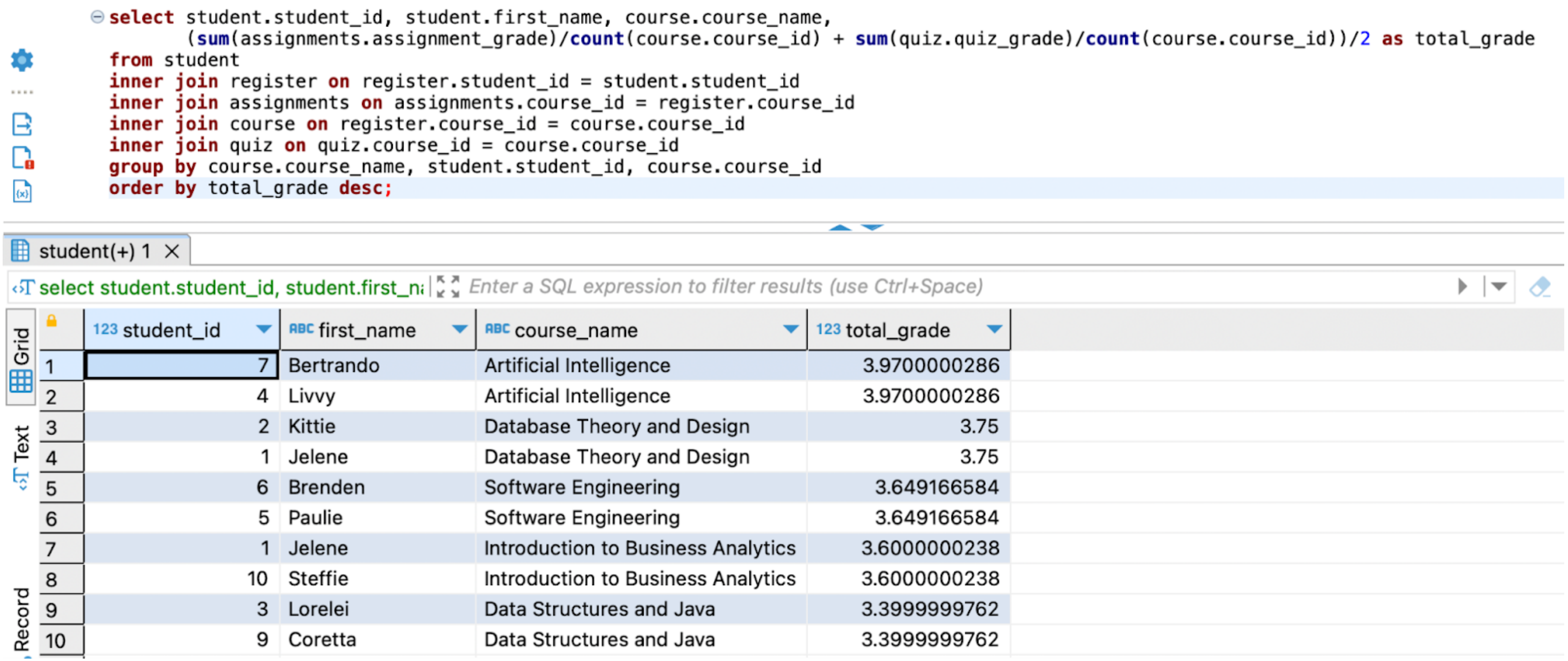
SAMPLE QUERIES


udent(+) 1 ×
elect student.student_id, student.fir
Enter a SQL expression to filter results (use Ctrl+Space)

```sql
select student.student_id, student.first_name, student.last_name, course.course_name
from register
inner join course on course.course_id = register.course_id
inner join student on student.student_id = register.student_id;
```

student_id	first_name	last_name	course_name
1	Jelene	Fletcher	Introduction to Business Analytics
1	Jelene	Fletcher	Database Theory and Design
2	Kittie	Hemerijk	Database Theory and Design
3	Lorelei	Clowley	Data Structures and Java
4	Livvy	Clixby	Artificial Intelligence
5	Paulie	Chess	Software Engineering
6	Brenden	Taborre	Business Development
7	Bertrando	Forrest	Cyber Security
8	Fred	Leahy	Statistics and Predictive Analysis
9	Coretta	Challicombe	Data Engineering
10	Steffie	Moiser	Data Visualization
10	Steffie	Moiser	Introduction to Business Analytics
6	Brenden	Taborre	Software Engineering
7	Bertrando	Forrest	Artificial Intelligence
9	Coretta	Challicombe	Data Structures and Java

SAMPLE QUERIES

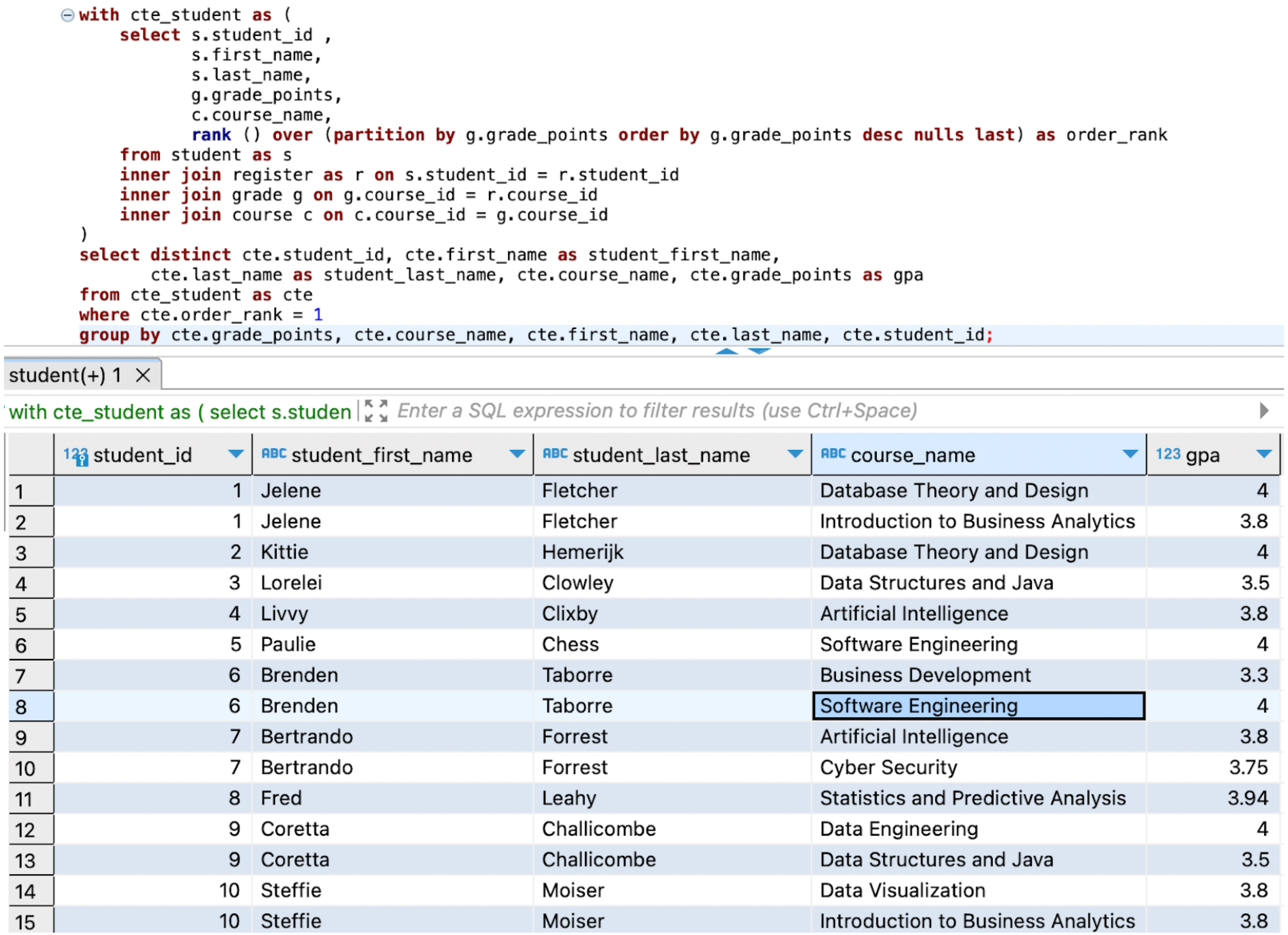


```sql
select student.student_id, student.first_name, course.course_name,
       (sum(assignments.assignment_grade)/count(course.course_id) + sum(quiz.quiz_grade)/count(course.course_id))/2 as total_grade
from student
inner join register on register.student_id = student.student_id
inner join assignments on assignments.course_id = register.course_id
inner join course on register.course_id = course.course_id
inner join quiz on quiz.course_id = course.course_id
group by course.course_name, student.student_id, course.course_id
order by total_grade desc;
```

student(+) 1
select student.student_id, student.first_na
Enter a SQL expression to filter results (use Ctrl+Space)
Grid
Text
Record

	student_id	first_name	course_name	total_grade
1	7	Bertrando	Artificial Intelligence	3.9700000286
2	4	Livvy	Artificial Intelligence	3.9700000286
3	2	Kittie	Database Theory and Design	3.75
4	1	Jelene	Database Theory and Design	3.75
5	6	Brenden	Software Engineering	3.649166584
6	5	Paulie	Software Engineering	3.649166584
7	1	Jelene	Introduction to Business Analytics	3.6000000238
8	10	Steffie	Introduction to Business Analytics	3.6000000238
9	3	Lorelei	Data Structures and Java	3.3999999762
10	9	Coretta	Data Structures and Java	3.3999999762

SAMPLE QUERIES



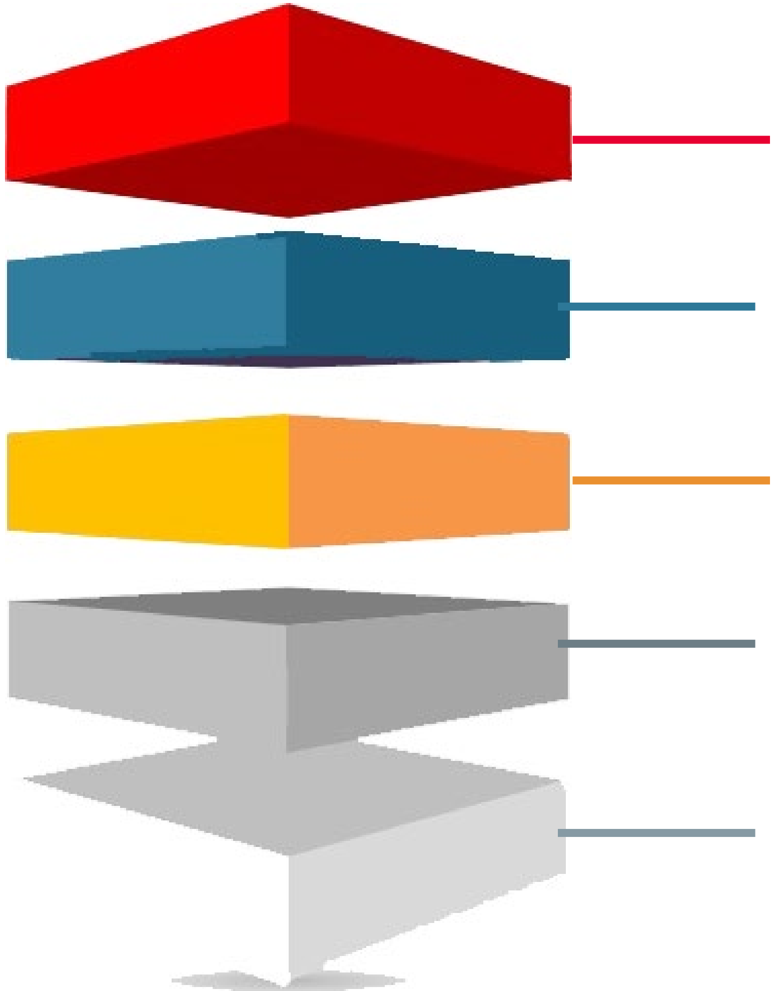
```sql
with cte_student as (
    select s.student_id ,
           s.first_name,
           s.last_name,
           g.grade_points,
           c.course_name,
           rank () over (partition by g.grade_points order by g.grade_points desc nulls last) as order_rank
    from student as s
    inner join register as r on s.student_id = r.student_id
    inner join grade g on g.course_id = r.course_id
    inner join course c on c.course_id = g.course_id
)
select distinct cte.student_id, cte.first_name as student_first_name,
       cte.last_name as student_last_name, cte.course_name, cte.grade_points as gpa
from cte_student as cte
where cte.order_rank = 1
group by cte.grade_points, cte.course_name, cte.first_name, cte.last_name, cte.student_id;
```

student(+) 1 ×
with cte_student as (select s.studen
Enter a SQL expression to filter results (use Ctrl+Space)

	student_id	student_first_name	student_last_name	course_name	gpa
1	1	Jelene	Fletcher	Database Theory and Design	4
2	1	Jelene	Fletcher	Introduction to Business Analytics	3.8
3	2	Kittie	Hemerijk	Database Theory and Design	4
4	3	Lorelei	Clowley	Data Structures and Java	3.5
5	4	Livvy	Clixby	Artificial Intelligence	3.8
6	5	Paulie	Chess	Software Engineering	4
7	6	Brenden	Taborre	Business Development	3.3
8	6	Brenden	Taborre	Software Engineering	4
9	7	Bertrando	Forrest	Artificial Intelligence	3.8
10	7	Bertrando	Forrest	Cyber Security	3.75
11	8	Fred	Leahy	Statistics and Predictive Analysis	3.94
12	9	Coretta	Challicombe	Data Engineering	4
13	9	Coretta	Challicombe	Data Structures and Java	3.5
14	10	Steffie	Moiser	Data Visualization	3.8
15	10	Steffie	Moiser	Introduction to Business Analytics	3.8

FUTURE IDEAS

QUESTIONS



HELP SECTION

VIDEO CALL - FEATURE

VIRTUAL REALITY

PROCTORED QUIZ

ACCESSIBILITY FOR DISABILITIES