



Pázmány Péter Catholic University  
Faculty of Information Technology and Bionics

# SQL Basics

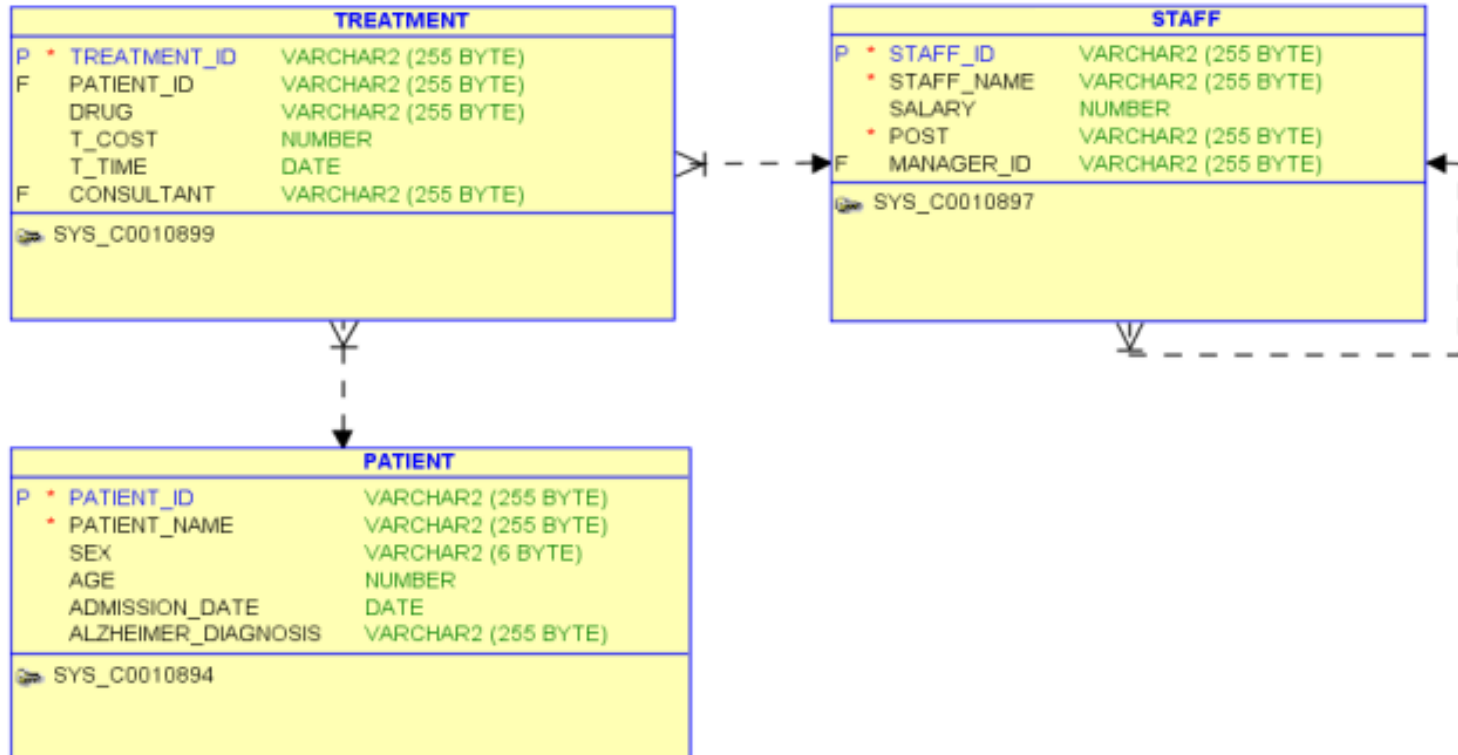
Tamas Zsedrovits, Ph.D.

**Database Systems I. Lab**

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# Schema





# UPDATE

- **UPDATE TABLE tablename  
SET column1=value1,column2=value2,...  
WHERE some\_column=some\_value;**
- If some records needs to be changed
- The diagnosis of patient P9500 changed from moderate fo severe.



# DELETE

- **DELETE FROM tablename  
WHERE some\_column=some\_value;**
- One or more records needs to be deleted
- Delete all female patients
- Henry Kip was relocated to another hospital, delete him from the database
- Delete all records from patient (where clause is not needed)



# JOIN

- **More tables are needed for a query -> join, based on the common attributes (generally PK-FK).**
- `SELECT treatment_id, staff_name  
FROM treatment t, staff s  
WHERE t.consultant = s.staff_id;`
- **OR with the INNER JOIN syntax**
- `SELECT treatment_id, staff_name  
FROM treatment t INNER JOIN staff s ON t.consultant = s.staff_id;`
- **OR with the shorter syntax (only JOIN)**
- `SELECT treatment_id, staff_name  
FROM treatment t JOIN staff s ON t.consultant = s.staff_id;`
- There are other kind of table joins: LEFT OUTER JOIN, RIGHT OUTER JOIN, FULL OUTER JOIN, ~~NATURAL JOIN~~ <- never ever use this one, it is unsafe!!!
- List the immediate boss of every staff member.
- List the treatments, the name of the patient and also the person who did it. The result should be ordered by the cost of the treatment in a descending order.



# DISTINCT

- **SELECT DISTINCT expression  
FROM tablename  
...;**
- Lists only the unique values
  - For one column no repeated values
  - For more columns, the unique combinations
- How many different names are in our worker database?

```
SELECT COUNT(DISTINCT name)  
FROM worker;
```

- Which drugs have been used so far for treatments?
- What kind of posts and salaries given to the person at a specific post we have?



## Set operations: UNION/INTERSECT/MINUS

- **SELECT column\_name(s) FROM table1  
UNION/INTERSECT/MINUS  
SELECT column\_name(s) FROM table2;**
- Who did not do any treatments?
- List all managers but the president.
- List all people in the hospital and whether they are patient or staff.



# VIEW

- **CREATE VIEW view\_name AS  
SELECT column\_name(s)  
FROM table\_name  
WHERE condition;**
- Create a view for the following query: which patient was treated by whom and when?
- Using the created view, answer the following question: which patients were treated by Dr. Green in October of 2004?