

# Answers

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## Nested (Sub) Queries

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**Handout:** Nested SQL Queries 3.5.20.pdf

(markdown converted at <https://md2pdf.netlify.com/>)

## Professor Database

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**Prof** (**pid**, lname, fname, rank, research)

**Dept** (**did**, name, address, *chair*)

**Appt** (*pid*, *did*, percentage)

**Proj** (**prid**, sponsor, budget, *pid*)

**Table names** are **bold**. **Primary keys** are **bold**. *Foreign keys* are shown in *italics* and match the same field in another table unless specified.

### Notes:

1. *chair* in **Dept** refers to **pid** in **Prof**
2. *pid* in **Proj** means PI on Proj and refers to **pid** in **Prof**

### Questions

1. List professor(s) (lname, prid, budget) who is PI on the largest single grant in dollars.

```
#using >= All
select lname, prid, budget
from professor natural join project
where budget >= all (select budget from project)
```

#or

```
#using IN a list of one value
select lname, prid, budget
from professor natural join project
where budget in (select max(budget) from project)
```

2. List of professor(s) (pid, lname, total) with largest total budget from all grants.
3. List professor(s) (pid, lname, count) with most grants.
4. Correlated nested query; use of NOT EXISTS; Division example List professor(s) (pid, lname) with appointments in every department Additional questions from Editor's database
5. Find people (id, name) who were authors in every year from 2011 to 2014.

6. Find all people who never did a review.**Questions**