

# SQL Database for Beginners

## Lab Exercise 8

### Answer Key

- 1) Write a query returning the projects with a budget larger than the average budget over all projects in the project table.

Answer:

```
select *  
from project  
where budget >  
(select avg(budget) from project)
```

- 2) Write a query returning all projects in the project table, for each project stating their share of the overall budget.

Answer:

```
select label, budget,  
budget/(select sum(budget) from project)  
from project
```

- 3) Optimize the previous query by adding headings and rounding.

Answer:

```
select label projectname, budget,  
round(budget/(select sum(budget) from project),3) share  
from project
```

- 4) Write a query returning persons acting as "Project Manager" in any project.

Answer:

```
select * from person  
where  
id in  
(select pid  
from projectperson pp, role r  
where pp.rid=r.id  
and r.label='Project Manager')
```

- 5) Write a query returning all projects in the project table that have no staff assigned.

Answer:

```
select * from project pr  
where not exists  
(select * from projectperson  
where prid=pr.id)
```

- 6) Write a query returning all persons in the person table that have a postal address listed in the contact table.

Answer:

Tip: Before writing the query, identify the contact type id using:

```
select * from contacttype
```

Then write the query hard-coding the identified id:

```
select * from person p
```

```
where exists
```

```
(select * from contact
```

```
where pid=p.id
```

```
and ctid=3)
```

- 7) Write a query returning a table with all contact types and their assignments in the contact table.

Answer:

```
select * from contacttype ct, contact c
```

```
where ct.id=c.ctid
```

- 8) Use the previous query as a derived table in a query returning all persons in the person table with their contact details.

Answer:

```
select * from person p,
```

```
(select * from contacttype ct, contact c
```

```
where ct.id=c.ctid) cd
```

```
where p.id=cd.pid
```

- 9) Write a query returning how often the most used contact type in the contact table is assigned.

Answer:

```
select max(uses)
```

```
from
```

```
(select ctid, count(*) uses from contact c
```

```
group by ctid) u
```

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