Queries for DBMS Project II

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Sample Queries

SELECT:

```
SEL{*}(student);
SEL{name='Albert'}(student);
SEL{name='Albert' & grade > 6.0}(student);
SEL{grade < 4.0}(student);
SEL{(name = 'Albert' | id < 10) & grade > 8.0}(student);
SEL{(faculty.dept = 'MNC') | salary > 80000}(faculty);
```

PROJECT:

```
PRO{*}(dept);
PRO{name:salary}(faculty);
```

RENAME:

```
REN{student|stud_id:name:cgpa}(student);
REN{department}(dept);
```

UNION:

```
UNI(SEL{name='Albert'}(student), SEL{grade > 6.0}(student));
```

SET DIFFERENCE:

```
DIF(SEL{name='Albert'}(student), SEL{grade > 6.0}(student));
```

CARTESIAN PRODUCT:

```
CRP(faculty, course);
```

MORE QUERIES:

Which faculty teaches which course

```
PRO{id:name:cid}(SEL{fid = id}(CRP(faculty, course)));
```

All faculty members with salary > 70000 and their courses

```
PRO{id:name:dept:cid:salary}(SEL{fid = id & salary > 70000}(CRP(faculty, course)));
```

Highest salary in faculty

```
DIF(PRO{id:salary}(faculty),
    PRO{id:salary}(SEL{salary < fsal}(CRP(faculty, REN{fac|fid:fname:fdept:fsal}(faculty)))));
```

Find which course the teachers of CSE dept teach

```
PRO{id:name:cid:strength}(SEL{dept='CSE'}(SEL{fid = id}(CRP(faculty, course))));
```

SET INTERSECTION: Teachers in CSE dept AND with salary < 90000

```
DIF(SEL{salary < 90000}(faculty),
    DIF(SEL{salary < 90000}(faculty),
    SEL{dept = 'CSE'}(faculty)));
```

Natural Join

```
REN{stud_info|stud_id:stud_name:grade:course_id}(
  PRO{id:name:grade:cid}(SEL{eid = id}(CRP(student,
                                      REN{enroll|eid:cid}(enrollment)))));
```