-- 1.

π\_{first\_name, last\_name, salary, department\_id}(σ\_{department\_name='Engineering'}(employees ⨝ departments))

-- 2.

π\_{first\_name, salary}(employees)

-- 3.

π\_{first\_name, last\_name}((employees ⨝\_{emp\_id=manager\_id} departments))

-- 4

σ\_{salary > 60000}(employees)

-- 5.

employees ⨝\_{department\_id=department\_id} departments

-- 6

employees × projects

-- 7.

π\_{first\_name, last\_name}(employees - (π\_{first\_name, last\_name}(employees ⨝\_{emp\_id=manager\_id} departments)))

-- 8

departments ⨝ projects

-- 9.

π\_{department\_name, location}(departments)

-- 10

σ\_{budget > 100000}(projects)

-- 11.

π\_{first\_name, last\_name}(employees ⨝\_{emp\_id=manager\_id} (σ\_{department\_name='Sales'}(departments)))

-- 12

(π\_{first\_name, last\_name}(σ\_{department\_name='Engineering'}(departments))) ∪ (π\_{first\_name, last\_name}(σ\_{department\_name='Finance'}(departments)))

-- 13

π\_{first\_name, last\_name}(employees - (π\_{first\_name, last\_name}(employees ⨝\_{emp\_id=project\_id} projects)))

-- 14

employees ⨝\_{emp\_id=emp\_id} projects

-- 15

π\_{first\_name, last\_name}(employees - σ\_{salary >= 50000 ∧ salary <= 70000}(employees))