



SELECT "Hello World!"

sql_select("Hello World!")

sql_query() |> sql_select("Hello World!")



SELECT p.mrn FROM patient p

p = sql_alias("patient")
sql_join(p) |> sql_select(p.mrn)

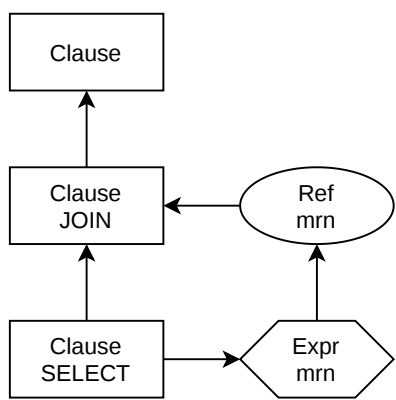
p = sql_alias("patient")
p |> sql_select(p.mrn)

(p = sql_from("patient")) |> sql_select(p.mrn)



SELECT p.mrn FROM patient p

(p = sql_from("patient")) |> sql_select(p.mrn)



SELECT p.mrn, e.date
FROM patient p
JOIN encounter e ON (p.id = e.patient_id)

p = sql_alias("patient")
e = sql_alias("encounter")
sql_from(p) |> sql_join(e, p.id, == e.patient_id) |> sql_select(p.mrn, e.date)

p = sql_alias(catalog["public"]["patient"])
e = sql_alias(catalog["public"]["encounter"])
sql_from(p) |> sql_join(e, autojoin=p) |> sql_select(p.mrn, e.date)

p = sql_alias("patient")
e = sql_alias("encounter")
p |> sql_join(e, p.id, == e.patient_id) |> sql_select(p.mrn, e.date)

p = sql_alias("patient")
e = sql_alias("encounter")
sql_from(p) |> sql_join(e, p.id, == e.patient_id) |> sql_select(p.mrn) |> sql_select(e.date)



SELECT p.mrn, e.date
FROM patient p
JOIN encounter e ON (p.id = e.patient_id)

p = From("patient")
e = From("encounter")
j = Join(p, e, p.id, == e.patient_id)
Select(j, p.mrn, e.date)

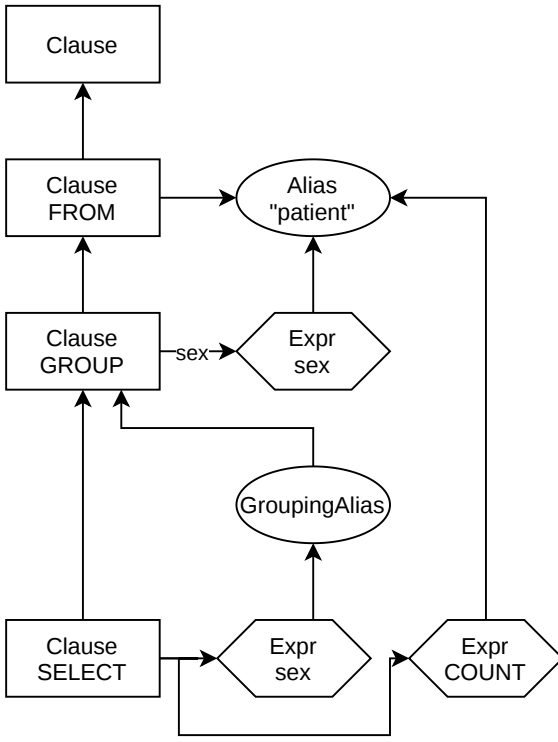
sql_from((p = sql_from("patient")) |> sql_join((e = sql_alias("encounter")), p.id, == e.patient_id) |> sql_select(p.mrn, e.date))



SELECT p.sex, COUNT(p)
FROM patient p
GROUP BY p.sex

p = sql_alias("patient")
g = sql_from(p) |> sql_group(sex = p.sex)
g |> sql_select(g.sex, sql_count(p))

p = From("patient")
g = Group(p, sex = p.sex)
Select(g, g.sex, Count(p))



SELECT p.mrn, COALESCE(g.n_e, 0)
FROM patient p
LEFT JOIN (
SELECT e.patient_id, COUNT(e) AS n_e
FROM encounter e
GROUP BY e.patient_id) g ON (p.id = g.patient_id)

p = From("patient")
e = From("encounter")
g = Group(e, patient_id = e.patient_id)
j = LeftJoin(p, g, p.id, == g.patient_id, omit_if_unused=true)
Select(j, p.mrn, Coalesce(Count(e), 0))

p = From("patient")
e = From("encounter")
g = Group(e, patient_id = e.patient_id)
gs = Select(g, patient_id = g.patient_id, n = Count(e))
j = LeftJoin(p, gs, p.id, == gs.patient_id)
Select(j, p.mrn, Coalesce(gs.n, 0))

p = From("patient")
e = From("encounter")
g = Group(e, patient_id = e.patient_id, summarize=(; n = Count(e)))
j = LeftJoin(p, g, p.id, == g.patient_id)
Select(j, p.mrn, Coalesce(g.n, 0))

SELECT p.mrn
FROM patient p
WHERE p.sex = 'male'

p = From("patient")
w = Where(p, p.sex, == "male")
Select(w, p.mrn)

p = From("patient", columns=["mrn", "sex"])
w = Where(p, Ref(1, 2), == "male", select=[Ref(1,1)])
Select(w, select=[Ref(1,1)])

patient_tbl = Table("patient", [{"id", Int}, {"sex", String}, {"mrn", String}])
encounter_tbl = Table("encounter", [{"id", Int}, {"patient_id", Int}, {"date", Date}])

auto_connect(patient_tbl, encounter_tbl, [{"id", "patient_id"}])

p = From(patient_tbl)
e = From(encounter_tbl)
j = LeftJoin(p, e)
Select(j, p.mrn, e.date)



SELECT p.mrn, EXTRACT(YEAR FROM e.date)
FROM patient p
JOIN encounter e
ON (p.id = e.patient_id)
WHERE p.sex = 'male'

p = From(patient)
e = From(encounter)
j = Join(p, e, p.id, := e.patient_id)
w = Where(j, p.sex, := 'male')
s = Select(w, mrn = p.mrn, year = Year(e.date))



p = From(patient)
p_ = Select(p, _id = Const(:id), _sex = Const(:sex), _mrn = Const(mrn))
e = From(encounter)
e_ = Select(e, _patient_id = Const(patient_id), _date = Const(:date))
j = Join(p_, e_, p_._id, := e_._patient_id)
j_ = Select(j, _mrn = p_._mrn, _sex = p_._sex, _date = e_._date)
w = Where(j_, j_._sex, := 'male')
w_ = Select(w, mrn = j_._mrn, _date = j_._date)
s = Select(w_, mrn = w_._mrn, year = Year(w_._date))



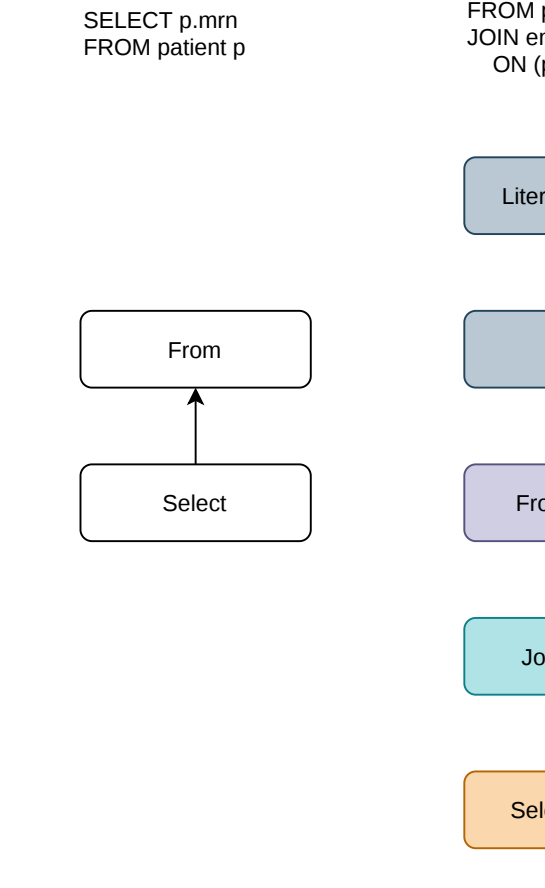
SELECT c.person_id, c.peer_id, c.timestamp, c.distance
FROM contact c

For each pair of persons, find the contact interval when there were detected at least once in a minute in a distance of less than 5 meters.



```

graph BT
    Select[Select] --> Order[Order]
    Order --> Where[Where]
    Where --> Join[Join]
    Join --> Patient[From patient]
    Join --> Encounter[From encounter]
  
```



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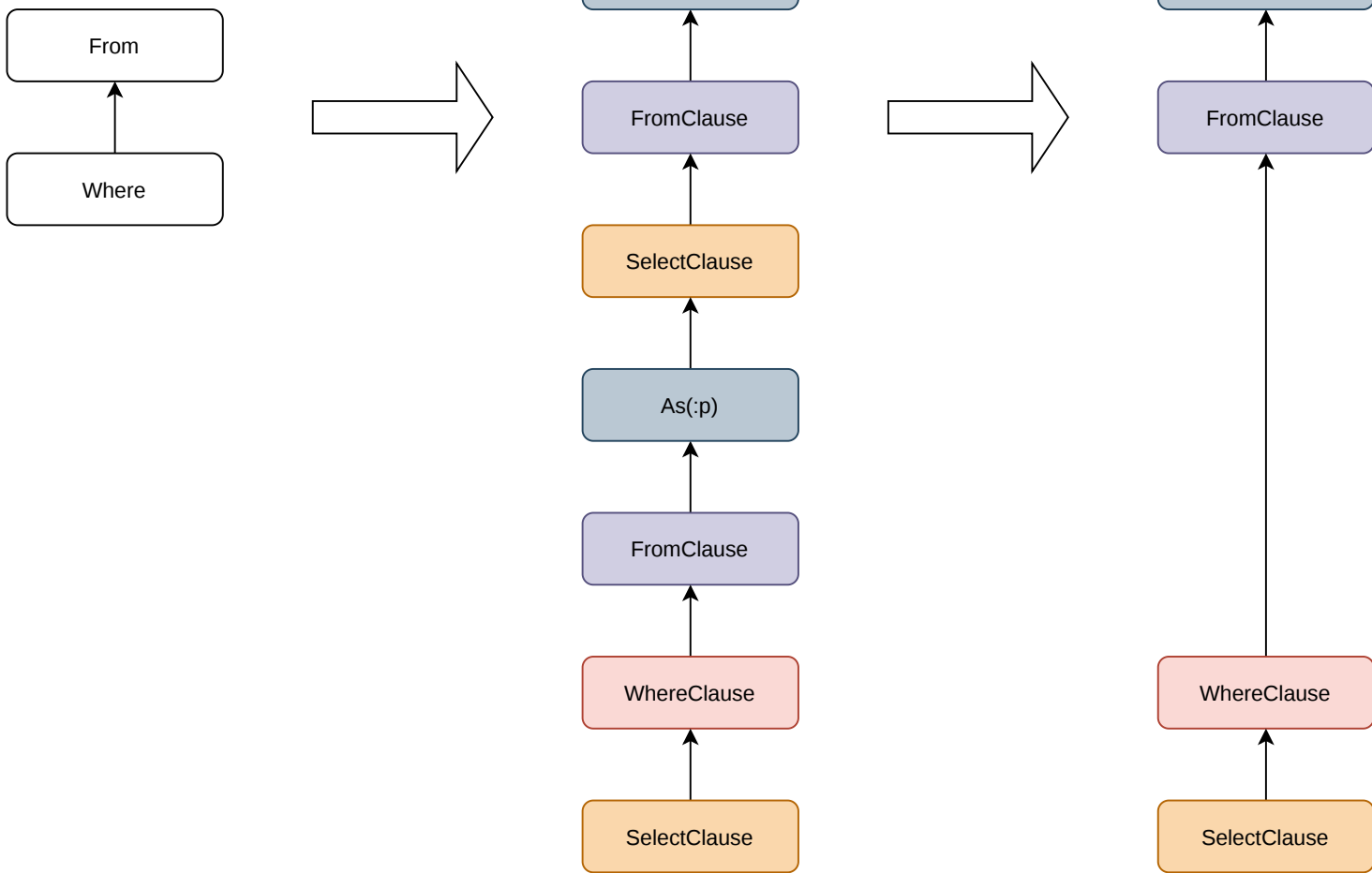
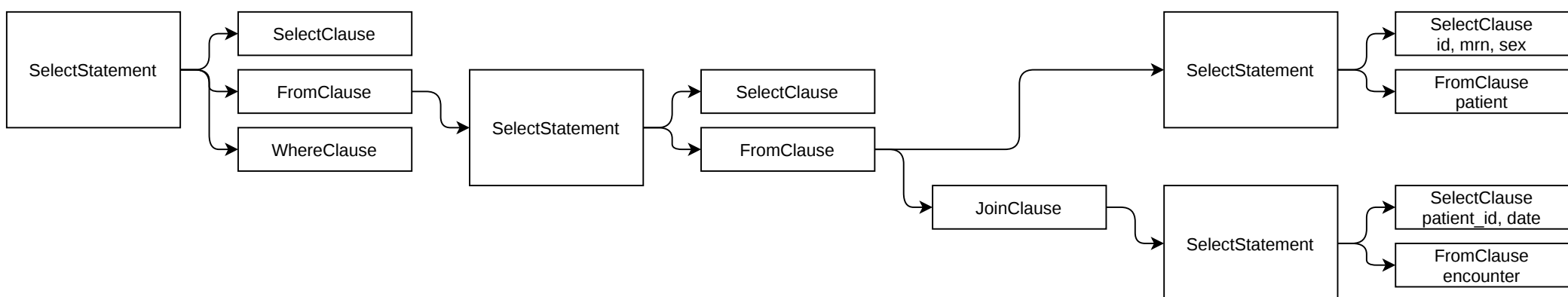
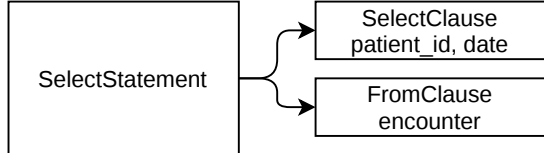
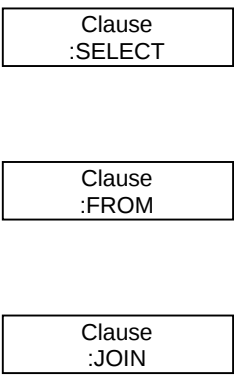
graph BT
    S1[Select] --> SS1[SelectStatement]
    SS1 --> O[Order]
    O --> SS2[SelectStatement]
    SS2 --> W[Where]
    W --> SS3[SelectStatement]
    SS3 --> J[Join]
    J --> S2[Select]
    J --> S3[Select]
    S2 --> FP[From patient]
    S3 --> FE[From encounter]
  
```

SELECT p.id, p.mrn, p.sex FROM patient p
 SELECT p.id, p.mrn FROM patient p
 SELECT e.patient_id, e.date FROM encounter e

SELECT p.mrn, p.sex, e.date
 FROM (SELECT p.id, p.mrn, p.sex FROM patient p) p
 JOIN (SELECT e.patient_id, e.date FROM encounter e) e
 ON (p.id = e.patient_id)

SELECT p.mrn, e.date
 FROM (
 SELECT p.mrn, p.sex, e.date
 FROM (SELECT p.id, p.mrn, p.sex FROM patient p) p
 JOIN (SELECT e.patient_id, e.date FROM encounter e) e
 ON (p.id = e.patient_id)) p
 WHERE p.sex = 'male'

```
SELECT p.mrn, e.date
FROM (
  SELECT p.mrn, p.sex, e.date
  FROM (SELECT p.id, p.mrn, p.sex FROM patient p) p
  JOIN (SELECT e.patient_id, e.date FROM encounter e) e
  ON (p.id = e.patient_id)) p
WHERE p.sex = 'male'
```





```
WITH RECURSIVE X AS (  
  SELECT 1 AS N  
  UNION ALL  
  SELECT ...  
  ...  
  FROM X  
  ...  
  FROM X)
```





SELECT ... FROM (SELECT) AS ...



SELECT ... FROM (SELECT ...) AS ... WHERE ...



SELECT ... FROM (SELECT ... FROM ...) AS ... WHERE ...



SELECT ... FROM (SELECT ... WHERE ...) AS ... WHERE ...



SELECT ... FROM (SELECT ... JOIN ...) AS ... WHERE ...

