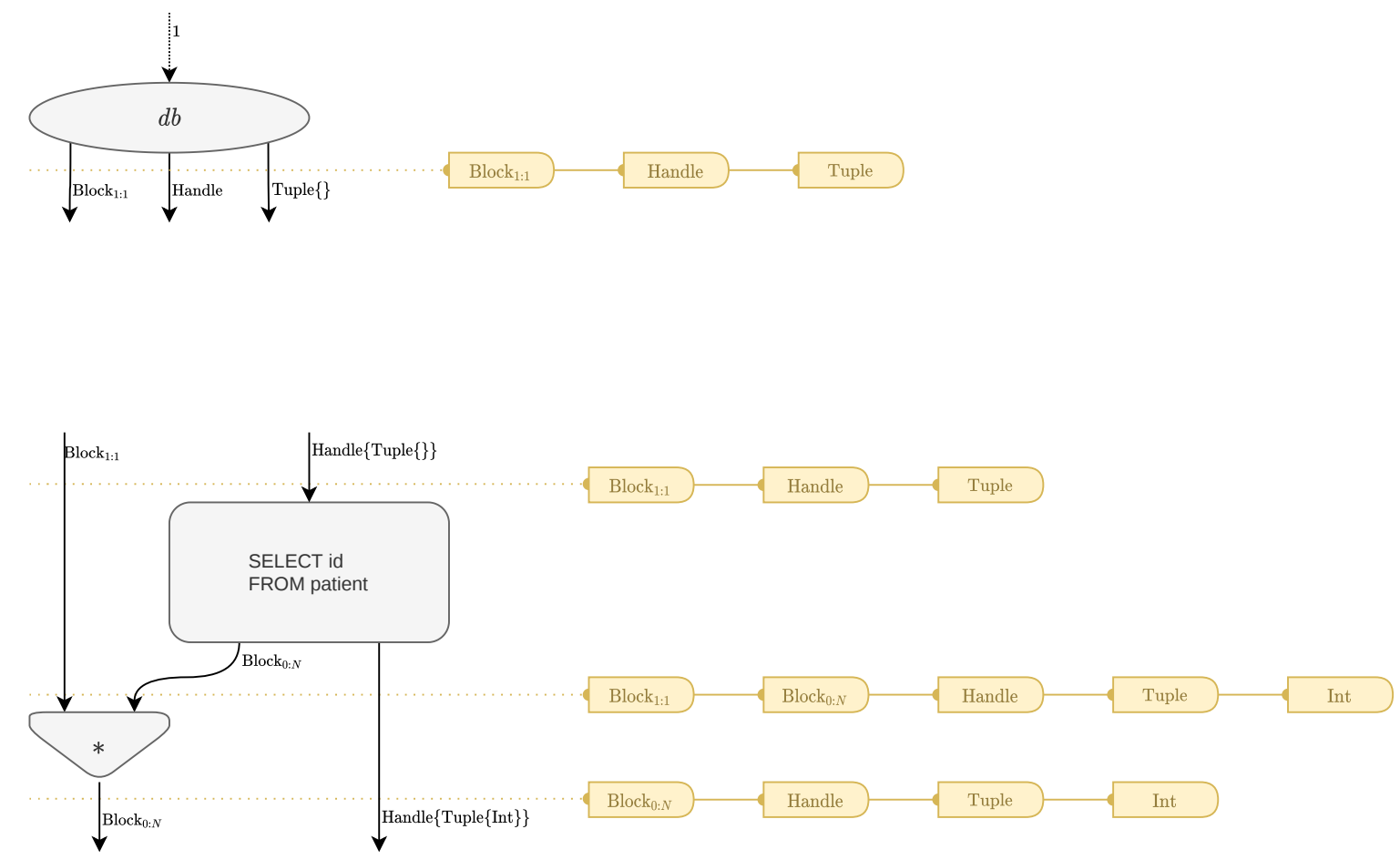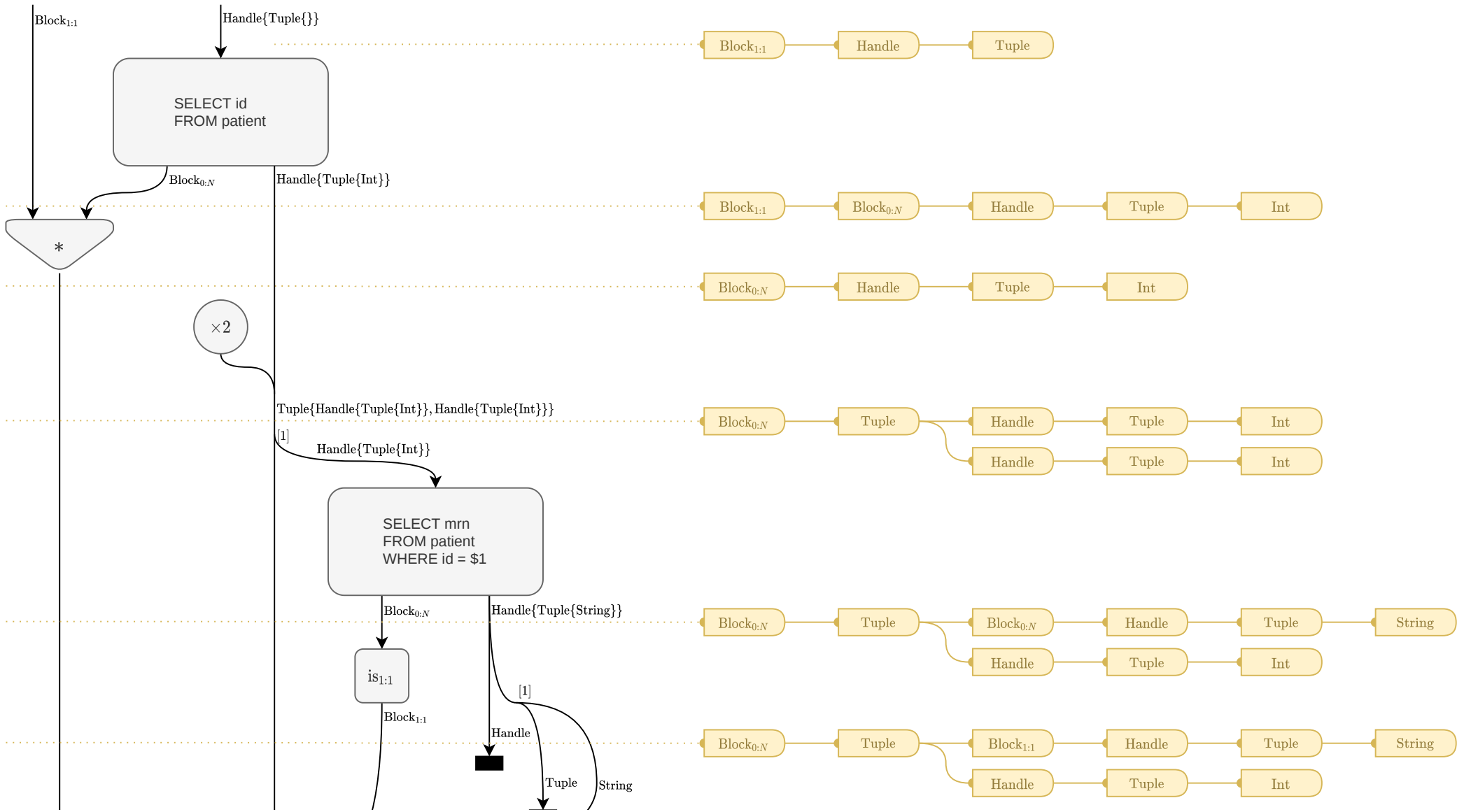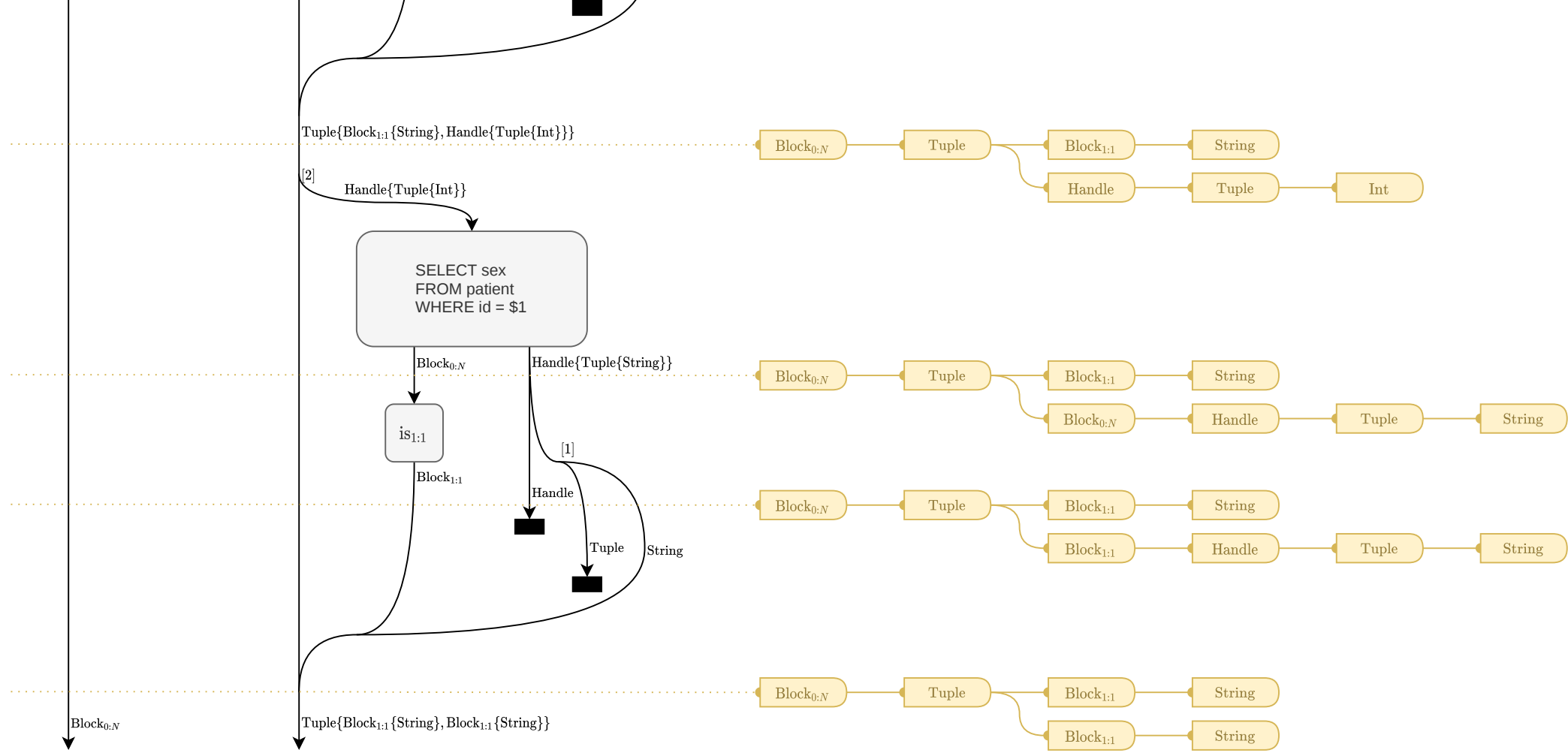# @query db patient

```
chain_of(with_elements(load_postgres_table(("public", "patient"), ["id"], [Int32])), flatten())
```

@query db patient{mrn,sex}

```
chain_of(with_elements(load_postgres_table(("public", "patient"), ["id"], [Int32])),
         flatten(),
         with_elements(tuple_of(:mrn => chain_of(load_postgres_table(("public", "patient"), ["mrn"], [String], ["id"]),
                                                 block_cardinality(x1to1),
                                                 with_elements(chain_of(output(), column(1)))),
                                :sex => chain_of(load_postgres_table(("public", "patient"), ["sex"], [String], ["id"]),
                                                 block_cardinality(x1to1),
                                                 with_elements(chain_of(output(), column(1)))))))
```

$\text{Tuple}\{\text{Block}_{1:1}\{\text{String}\}, \text{Handle}\{\text{Tuple}\{\text{Int}\}\}\}$

$\text{Block}_{0:N}$ — Tuple — $\text{Block}_{1:1}$ — String

Handle — Tuple — Int

[2]

$\text{Handle}\{\text{Tuple}\{\text{Int}\}\}$

SELECT sex
FROM patient
WHERE id = $1

$\text{Block}_{0:N}$

$\text{Handle}\{\text{Tuple}\{\text{String}\}\}$

$\text{Block}_{0:N}$ — Tuple — $\text{Block}_{1:1}$ — String

$\text{Block}_{0:N}$ — Handle — Tuple — String

$\text{is}_{1:1}$

$\text{Block}_{1:1}$

[1]

Handle

$\text{Block}_{0:N}$ — Tuple — $\text{Block}_{1:1}$ — String

$\text{Block}_{1:1}$ — Handle — Tuple — String

Tuple

String

$\text{Block}_{0:N}$ — Tuple — $\text{Block}_{1:1}$ — String

$\text{Block}_{1:1}$ — String

$\text{Block}_{0:N}$

$\text{Tuple}\{\text{Block}_{1:1}\{\text{String}\}, \text{Block}_{1:1}\{\text{String}\}\}$

SQL Pushdown

@query db patient{mrn,sex}

```
chain_of(with_elements(load_postgres_table(("public", "patient"), ["mrn", "sex"], [String, String])),
        flatten(),
        with_elements(output()))
```

$Block_{1:1}$

$Handle\{Tuple\{\}\}$

$Block_{1:1}$ — Handle — Tuple

SELECT mrn, sex
FROM patient

$Block_{0:N}$

$Handle\{Tuple\{String, String\}\}$

$Block_{1:1}$ — $Block_{0:N}$ — Handle — Tuple — String / String

*

Handle

$Block_{0:N}$ — Handle — Tuple — String / String

$Block_{0:N}$

$Tuple\{String, String\}$

$Block_{0:N}$ — Tuple — String / String