

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



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









The diagram illustrates the transformation of a query plan into a typed IR. The left side shows the query plan with nodes like 'flatten()', 'column(1)', 'output()', 'load\_table()', and 'cardinality()'. The right side shows the typed IR with nodes like 'BlockOf', 'EntityShape', 'TupleOf', and 'Int32'. The mapping is as follows:

- flatten() (green box)** maps to **BlockOf x0toN** (teal oval).
- column(1) (green box)** maps to **BlockOf x0toN** (teal oval).
- output() (green box)** maps to **BlockOf x0toN** (teal oval).
- load\_table("patient", ["id"]) SELECT id FROM patient (green box)** maps to **BlockOf x0toN** (teal oval).
- load\_table("patient", ["min", "id"]) SELECT min FROM patient WHERE id = ? (green box)** maps to **BlockOf x0toN** (teal oval).
- cardinality(x1to1) (green box)** maps to **BlockOf x0toN** (teal oval).
- head (yellow box)** maps to **EntityShape "patient"** (teal oval).
- 1 (yellow box)** maps to **Int32** (grey oval).
- BlockOf x1to1 (teal oval)** maps to **BlockOf x0toN** (teal oval).
- EntityShape "patient" (teal oval)** maps to **TupleOf** (teal oval).
- TupleOf (teal oval)** maps to **String** (grey oval).
- Int32 (grey oval)** maps to **Int32** (grey oval).
- String (grey oval)** maps to **String** (grey oval).

















