```
-- Comparisons to NULL always evaluate to UNKNOWN, and WHERE is too picky to
-- include UNKNOWNS.

-- All our courses have a value in every cell, except that there is one NULL
-- in CSC100: we don't know whether or not it is a breadth course.

csc343h-dianeh=> select * from course;

 cnum |             name             | dept | breadth
------+------------------------------+------+---------
  343 | Intro to Databases           | CSC  | f
  207 | Software Design              | CSC  | f
  148 | Intro to Comp Sci            | CSC  | f
  263 | Data Struct & Anal           | CSC  | f
  320 | Intro to Visual Computing    | CSC  | f
  200 | Intro Archaeology            | ANT  | t
  203 | Human Biol & Evol            | ANT  | f
  150 | Organisms in Environ         | EEB  | f
  216 | Marine Mammal Bio            | EEB  | f
  263 | Compar Vert Anatomy          | EEB  | f
  110 | Narrative                    | ENG  | t
  205 | Rhetoric                     | ENG  | t
  235 | The Graphic Novel            | ENG  | t
  200 | Environmental Change         | ENV  | f
  320 | Natl & Intl Env Policy       | ENV  | f
  220 | Mediaeval Society            | HIS  | t
  296 | Black Freedom                | HIS  | t
  222 | COBOL programming            | CSC  | f
  100 | CSC for Future Prime Ministers | CSC |
(19 rows)


-- We can see the courses that have breadth true.
-- The course with NULL for breadth does not satisfy this, as expected.
-- WHERE is picky!

csc343h-dianeh=> select * from course where breadth;
 cnum |      name        | dept | breadth
------+------------------+------+---------
  200 | Intro Archaeology | ANT  | t
  110 | Narrative         | ENG  | t
  205 | Rhetoric          | ENG  | t
  235 | The Graphic Novel | ENG  | t
  220 | Mediaeval Society | HIS  | t
  296 | Black Freedom     | HIS  | t
(6 rows)


-- The course with NULL for breadth does not satisfy
-- the condition "not breadth" either.

csc343h-dianeh=> select * from course where not breadth;

 cnum |            name           | dept | breadth
------+---------------------------+------+---------
  343 | Intro to Databases        | CSC  | f
  207 | Software Design           | CSC  | f
  148 | Intro to Comp Sci         | CSC  | f
  263 | Data Struct & Anal        | CSC  | f
  320 | Intro to Visual Computing | CSC  | f
  203 | Human Biol & Evol         | ANT  | f
  150 | Organisms in Environ      | EEB  | f
  216 | Marine Mammal Bio         | EEB  | f
  263 | Compar Vert Anatomy       | EEB  | f
  200 | Environmental Change      | ENV  | f
  320 | Natl & Intl Env Policy    | ENV  | f
```

```
   222 | COBOL programming          | CSC  | f
(12 rows)


-- But our course NULL for breadth doesn't satisfy the condition
-- "breadth or not breadth", even though it is a tautology.
-- This is a bit of a surprise, but it makes sense when we
-- remember the truth table for OR:
--     The value of "breadth" is unknown.
--     The value of "not breadth" is unknown.
--     The OR of two unknowns is unknown.

csc343h-dianeh=> select * from course where breadth or not breadth;
 cnum |           name            | dept | breadth
------+---------------------------+------+---------
  343 | Intro to Databases        | CSC  | f
  207 | Software Design           | CSC  | f
  148 | Intro to Comp Sci         | CSC  | f
  263 | Data Struct & Anal        | CSC  | f
  320 | Intro to Visual Computing | CSC  | f
  200 | Intro Archaeology         | ANT  | t
  203 | Human Biol & Evol         | ANT  | f
  150 | Organisms in Environ      | EEB  | f
  216 | Marine Mammal Bio         | EEB  | f
  263 | Compar Vert Anatomy       | EEB  | f
  110 | Narrative                 | ENG  | t
  205 | Rhetoric                  | ENG  | t
  235 | The Graphic Novel         | ENG  | t
  200 | Environmental Change      | ENV  | f
  320 | Natl & Intl Env Policy    | ENV  | f
  220 | Mediaeval Society         | HIS  | t
  296 | Black Freedom             | HIS  | t
  222 | COBOL programming         | CSC  | f
(18 rows)
```