



```
<svg class="railroad" viewBox="0 0 1018 891" xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink">
<style type="text/css">
```

```
svg.railroad {
  background-color: hsl(30, 20%, 95%);
  background-size: 15px 15px;
  background-image: linear-gradient(to right, rgba(30, 30, 30, .05) 1px, transparent 1px),
    linear-gradient(to bottom, rgba(30, 30, 30, .05) 1px, transparent 1px);
}
```

```
svg.railroad path {
  stroke-width: 3px;
  stroke: black;
  fill: transparent;
}
```

```
svg.railroad .debug {
  stroke-width: 1px;
  stroke: red;
}
```

```

}

svg.railroad text {
  font: 14px monospace;
  text-anchor: middle;
}

svg.railroad .nonterminal text {
  font-weight: bold;
}

svg.railroad text.comment {
  font: italic 12px monospace;
}

svg.railroad rect {
  stroke-width: 3px;
  stroke: black;
  fill:hsl(-290, 70%, 90%);
}

svg.railroad g.labeledbox > rect {
  stroke-width: 1px;
  stroke: grey;
  stroke-dasharray: 5px;
  fill:rgba(90, 90, 150, .1);
}</style>
<g class="sequence">
<path d=" M 10 70 a 5 5 0 0 1 5 -5 a 5 5 0 0 1 5 5 a 5 5 0 0 1 -5 5 a 5 5 0 0 1 -5 -5 m 10 0 h 5"/>
<g class="stack">
<path d=" M 35 70 h 12"/>
<path d=" M 656 70 a 12 12 0 0 1 12 12 v 39 a 12 12 0 0 1 -12 12 h -609 m 307 0 l 5 -5 m 0 10 l -5 -5 m
-307 0 a 12 12 0 0 0 -12 12 v 120 m 0 -57 l -5 -5 m 10 0 l -5 5 m 0 57 v 0 a 12 12 0 0 0 12 12 h 0"/>
<g class="sequence">
<text class="comment" x="90" y="75">
select-stmt</text>
<g class="labeledbox">
<rect height="111" width="512" x="144" y="10"/>
<path d=" M 144 70 h 8 m 496 0 h 8"/>
<text class="comment" x="244" y="33">
Common table expressions</text>
<g class="optional">
<path d=" M 152 70 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 448 m -221 0 l -5 -5 m 0
10 l 5 -5 m 221 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="52" x="176" y="59"/>
<text x="202" y="75">
WITH</text>

```

```

</g>
<g class="choice">
<path d=" M 238 70 h 24 m 0 0 h 116 m -55 0 l -5 -5 m 0 10 l 5 -5 m 55 0"/>
</g>
<path d=" M 238 70 a 12 12 0 0 1 12 12 v 0 m 116 0 v 0 a 12 12 0 0 1 12 -12"/>
<path d=" M 250 82 v 0 a 12 12 0 0 0 12 12 m 92 0 h 0 a 12 12 0 0 0 12 -12 v 0"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="92" x="262" y="83"/>
<text x="308" y="99">
RECURSIVE</text>
</g>
</g>
<g class="repeat">
<path d=" M 388 70 h 12 m 212 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 8 a 12 12 0 0 1 -12 12 m -28 0 h
-184 m 95 0 l 5 -5 m 0 10 l -5 -5 m -95 0 a 12 12 0 0 1 -12 -12 v -8 a 12 12 0 0 1 12 -12"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="584" y="91"/>
<text x="598" y="107">
,</text>
</g>
<g class="nonterminal">
<rect height="22" width="212" x="400" y="59"/>
<text x="506" y="75">
common-table-expression</text>
</g>
</g>
<path d=" M 228 70 h 10"/>
<path d=" M 378 70 h 10"/>
</g>
</g>
</g>
<path d=" M 134 70 h 10"/>
</g>
<path d=" M 947 277 a 12 12 0 0 1 12 12 v 453 m 0 -223 l -5 -5 m 10 0 l -5 5 m 0 223 a 12 12 0 0 1 -12
12 h -900 m 453 0 l 5 -5 m 0 10 l -5 -5 m -453 0 a 12 12 0 0 0 -12 12 v 48 v 0 a 12 12 0 0 0 12 12 h 0"/>
<g class="labeledbox">
<rect height="597" width="900" x="47" y="145"/>
<path d=" M 47 277 h 8 m 884 0 h 8"/>
<text class="comment" x="119" y="168">
Compounded SELECT</text>
<g class="repeat">
<path d=" M 55 277 h 12 m 860 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 414 m 0 -204 l -5 -5 m 10 0 l -5 5 m
0 204 a 12 12 0 0 1 -12 12 m -249 0 h -611 m 308 0 l 5 -5 m 0 10 l -5 -5 m -308 0 a 12 12 0 0 1 -12 -12 v
-414 m 0 210 l -5 5 m 10 0 l -5 -5 m 0 -210 a 12 12 0 0 1 12 -12"/>
<g class="sequence">
<g class="labeledbox">
<rect height="68" width="249" x="678" y="666"/>
<path d=" M 678 715 h 8 m 156 0 h 85 m -45 0 l 5 -5 m 0 10 l -5 -5 m 45 0"/>
<g class="sequence">

```

```

<text class="comment" x="733" y="690">
E.g. &quot;SELECT</text>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="60" x="790" y="674"/>
<text x="820" y="690">
UNION</text>
</g>
<text class="comment" x="889" y="690">
SELECT&quot;</text>
<path d=" M 780 685 h 10"/>
<path d=" M 850 685 h 10"/>
</g>
<g class="nonterminal">
<rect height="22" width="156" x="686" y="704"/>
<text x="764" y="720">
compound-operator</text>
</g>
</g>
</g>
<g class="choice">
<path d=" M 67 277 h 24 m 812 0 h 24"/>
<g class="labeledbox">
<rect height="335" width="812" x="91" y="181"/>
<path d=" M 91 277 h 8 m 796 0 h 8"/>
<text class="comment" x="149" y="204">
Single SELECT</text>
<g class="stack">
<path d=" M 99 277 h 12"/>
<path d=" M 859 277 a 12 12 0 0 1 12 12 v 72 m 0 -33 l -5 -5 m 10 0 l -5 5 m 0 33 a 12 12 0 0 1 -12 12 h
-748 m 377 0 l 5 -5 m 0 10 l -5 -5 m -377 0 a 12 12 0 0 0 -12 12 v 60 m 0 -27 l -5 -5 m 10 0 l -5 5 m 0 27
v 0 a 12 12 0 0 0 12 12 h 0"/>
<g class="sequence">
<g class="labeledbox">
<rect height="123" width="384" x="111" y="230"/>
<path d=" M 111 277 h 8 m 368 0 h 8"/>
<text class="comment" x="183" y="253">
Projection clause</text>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="68" x="119" y="266"/>
<text x="153" y="282">
SELECT</text>
</g>
<g class="choice">
<path d=" M 197 277 h 24 m 0 0 h 108 m -51 0 l -5 -5 m 0 10 l 5 -5 m 51 0"/>
</g>
<path d=" M 197 277 a 12 12 0 0 1 12 12 v 0 m 108 0 v 0 a 12 12 0 0 1 12 -12"/>
<path d=" M 209 289 v 33 m 108 0 v -33"/>
<path d=" M 209 289 v 0 a 12 12 0 0 0 12 12 m 84 0 h 0 a 12 12 0 0 0 12 -12 v 0"/>

```

```

<g class="terminal">
<rect height="22" rx="10" ry="10" width="84" x="221" y="290"/>
<text x="263" y="306">
DISTINCT</text>
</g>
<path d=" M 209 322 v 0 a 12 12 0 0 0 12 12 m 44 0 h 40 a 12 12 0 0 0 12 -12 v 0"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="44" x="221" y="323"/>
<text x="243" y="339">
ALL</text>
</g>
</g>
<g class="repeat">
<path d=" M 339 277 h 12 m 124 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 8 a 12 12 0 0 1 -12 12 m -28 0 h
-96 m 51 0 l 5 -5 m 0 10 l -5 -5 m -51 0 a 12 12 0 0 1 -12 -12 v -8 a 12 12 0 0 1 12 -12"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="447" y="298"/>
<text x="461" y="314">
,</text>
</g>
<g class="nonterminal">
<rect height="22" width="124" x="351" y="266"/>
<text x="413" y="282">
result-column</text>
</g>
</g>
<path d=" M 187 277 h 10"/>
<path d=" M 329 277 h 10"/>
</g>
</g>
<g class="labeledbox">
<rect height="144" width="354" x="505" y="217"/>
<path d=" M 505 277 h 8 m 338 0 h 8"/>
<text class="comment" x="556" y="240">
From clause</text>
<g class="optional">
<path d=" M 513 277 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 290 m -142 0 l -5 -5 m
0 10 l 5 -5 m 142 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="52" x="537" y="266"/>
<text x="563" y="282">
FROM</text>
</g>
<g class="choice">
<path d=" M 599 277 h 24 m 180 0 h 24"/>
<g class="repeat">
<path d=" M 623 277 h 12 m 156 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 8 a 12 12 0 0 1 -12 12 m -28 0 h
-128 m 67 0 l 5 -5 m 0 10 l -5 -5 m -67 0 a 12 12 0 0 1 -12 -12 v -8 a 12 12 0 0 1 12 -12"/>

```

```

<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="763" y="298"/>
<text x="777" y="314">
,</text>
</g>
<g class="nonterminal">
<rect height="22" width="156" x="635" y="266"/>
<text x="713" y="282">
table-or-subquery</text>
</g>
</g>
<path d=" M 599 277 a 12 12 0 0 1 12 12 v 41 m 204 0 v -41 a 12 12 0 0 1 12 -12"/>
<path d=" M 611 330 v 0 a 12 12 0 0 0 12 12 m 108 0 h 72 m -33 0 l -5 -5 m 0 10 l 5 -5 m 33 0 a 12 12 0
0 0 12 -12 v 0"/>
<g class="nonterminal">
<rect height="22" width="108" x="623" y="331"/>
<text x="677" y="347">
join-clause</text>
</g>
</g>
<path d=" M 589 277 h 10"/>
</g>
</g>
</g>
<path d=" M 495 277 h 10"/>
</g>
<path d=" M 751 457 h 120 m -57 0 l -5 -5 m 0 10 l 5 -5 m 57 0 a 12 12 0 0 0 12 -12 v -156 m 0 81 l -5 5
m 10 0 l -5 -5 m 0 -81 a 12 12 0 0 1 12 -12"/>
<g class="sequence">
<g class="labeledbox">
<rect height="79" width="186" x="111" y="397"/>
<path d=" M 111 457 h 8 m 170 0 h 8"/>
<text class="comment" x="166" y="420">
Where clause</text>
<g class="optional">
<path d=" M 119 457 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 122 m -58 0 l -5 -5 m 0
10 l 5 -5 m 58 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="60" x="143" y="446"/>
<text x="173" y="462">
WHERE</text>
</g>
<g class="nonterminal">
<rect height="22" width="52" x="213" y="446"/>
<text x="239" y="462">
expr</text>
</g>
<path d=" M 203 457 h 10"/>

```

```

</g>
</g>
</g>
<g class="labeledbox">
<rect height="123" width="444" x="307" y="385"/>
<path d=" M 307 457 h 8 m 428 0 h 8"/>
<text class="comment" x="348" y="408">
Grouping</text>
<g class="optional">
<path d=" M 315 457 h 24 m -24 0 a 12 12 0 0 0 12 -12 v -12 a 12 12 0 0 1 12 -12 h 380 m -187 0 l -5 -5
m 0 10 l 5 -5 m 187 0 a 12 12 0 0 1 12 12 v 12 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="60" x="339" y="446"/>
<text x="369" y="462">
GROUP</text>
</g>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="36" x="409" y="446"/>
<text x="427" y="462">
BY</text>
</g>
<g class="repeat">
<path d=" M 455 457 h 12 m 52 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 8 a 12 12 0 0 1 -12 12 m -28 0 h -24
a 12 12 0 0 1 -12 -12 v -8 a 12 12 0 0 1 12 -12"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="491" y="478"/>
<text x="505" y="494">
,</text>
</g>
<g class="nonterminal">
<rect height="22" width="52" x="467" y="446"/>
<text x="493" y="462">
expr</text>
</g>
</g>
<g class="optional">
<path d=" M 541 457 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 130 m -62 0 l -5 -5 m 0
10 l 5 -5 m 62 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="68" x="565" y="446"/>
<text x="599" y="462">
HAVING</text>
</g>
<g class="nonterminal">
<rect height="22" width="52" x="643" y="446"/>
<text x="669" y="462">
expr</text>

```

```

</g>
<path d=" M 633 457 h 10"/>
</g>
</g>
<path d=" M 399 457 h 10"/>
<path d=" M 445 457 h 10"/>
<path d=" M 531 457 h 10"/>
</g>
</g>
</g>
<path d=" M 297 457 h 10"/>
</g>
</g>
</g>
<path d=" M 67 277 a 12 12 0 0 1 12 12 v 237 m 0 -115 l -5 -5 m 10 0 l -5 5 m 0 115 m 836 0 v -237 m 0
121 l -5 5 m 10 0 l -5 -5 m 0 -121 a 12 12 0 0 1 12 -12"/>
<path d=" M 79 526 v 35 a 12 12 0 0 0 12 12 m 270 0 h 542 m -268 0 l -5 -5 m 0 10 l 5 -5 m 268 0 a 12
12 0 0 0 12 -12 v -35"/>
<g class="labeledbox">
<rect height="130" width="270" x="91" y="526"/>
<path d=" M 91 573 h 8 m 254 0 h 8"/>
<text class="comment" x="153" y="549">
Literal values</text>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="68" x="99" y="562"/>
<text x="133" y="578">
VALUES</text>
</g>
<g class="repeat">
<path d=" M 177 573 h 12 m 152 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 40 a 12 12 0 0 1 -12 12 m -28 0 h
-124 m 65 0 l 5 -5 m 0 10 l -5 -5 m -65 0 a 12 12 0 0 1 -12 -12 v -40 a 12 12 0 0 1 12 -12"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="313" y="626"/>
<text x="327" y="642">
,</text>
</g>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="189" y="562"/>
<text x="203" y="578">
(</text>
</g>
<g class="repeat">
<path d=" M 227 573 h 12 m 52 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 8 a 12 12 0 0 1 -12 12 m -28 0 h -24
a 12 12 0 0 1 -12 -12 v -8 a 12 12 0 0 1 12 -12"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="263" y="594"/>
<text x="277" y="610">

```



```
,</text>
</g>
<g class="nonterminal">
<rect height="22" width="52" x="239" y="562"/>
<text x="265" y="578">
expr</text>
</g>
</g>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="28" x="313" y="562"/>
<text x="327" y="578">
)</text>
</g>
<path d=" M 217 573 h 10"/>
<path d=" M 303 573 h 10"/>
</g>
</g>
<path d=" M 167 573 h 10"/>
</g>
</g>
</g>
</g>
</g>
<path d=" M 807 826 h 152 m -73 0 l -5 -5 m 0 10 l 5 -5 m 73 0 a 12 12 0 0 0 12 -12 v -732 m 0 369 l -5 5
m 10 0 l -5 -5 m 0 -369 a 12 12 0 0 1 12 -12"/>
<g class="sequence">
<g class="labeledbox">
<rect height="111" width="328" x="47" y="766"/>
<path d=" M 47 826 h 8 m 312 0 h 8"/>
<text class="comment" x="88" y="789">
Ordering</text>
<g class="optional">
<path d=" M 55 826 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 264 m -129 0 l -5 -5 m 0
10 l 5 -5 m 129 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="60" x="79" y="815"/>
<text x="109" y="831">
ORDER</text>
</g>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="36" x="149" y="815"/>
<text x="167" y="831">
BY</text>
</g>
<g class="repeat">
<path d=" M 195 826 h 12 m 124 0 h 12 m -12 0 a 12 12 0 0 1 12 12 v 8 a 12 12 0 0 1 -12 12 m -28 0 h
-96 m 51 0 l 5 -5 m 0 10 l -5 -5 m -51 0 a 12 12 0 0 1 -12 -12 v -8 a 12 12 0 0 1 12 -12"/>
<g class="terminal">
```

```

<rect height="22" rx="10" ry="10" width="28" x="303" y="847"/>
<text x="317" y="863">
,</text>
</g>
<g class="nonterminal">
<rect height="22" width="124" x="207" y="815"/>
<text x="269" y="831">
ordering-item</text>
</g>
</g>
<path d=" M 139 826 h 10"/>
<path d=" M 185 826 h 10"/>
</g>
</g>
<g class="labeledbox">
<rect height="115" width="422" x="385" y="766"/>
<path d=" M 385 826 h 8 m 406 0 h 8"/>
<text class="comment" x="426" y="789">
Limiting</text>
<g class="optional">
<path d=" M 393 826 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 358 m -176 0 l -5 -5 m
0 10 l 5 -5 m 176 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="sequence">
<g class="terminal">
<rect height="22" rx="10" ry="10" width="60" x="417" y="815"/>
<text x="447" y="831">
LIMIT</text>
</g>
<g class="nonterminal">
<rect height="22" width="52" x="487" y="815"/>
<text x="513" y="831">
expr</text>
</g>
<g class="choice">
<path d=" M 549 826 h 24 m 0 0 h 202 m -98 0 l -5 -5 m 0 10 l 5 -5 m 98 0"/>
<g/>
<path d=" M 549 826 a 12 12 0 0 1 12 12 v 0 m 202 0 v 0 a 12 12 0 0 1 12 -12"/>
<path d=" M 561 838 v 12 a 12 12 0 0 0 12 12 m 178 0 h 0 a 12 12 0 0 0 12 -12 v -12"/>
<g class="sequence">
<g class="optional">
<path d=" M 573 862 h 24 m -24 0 a 12 12 0 0 0 12 -12 v 0 a 12 12 0 0 1 12 -12 h 68 m -31 0 l -5 -5 m 0
10 l 5 -5 m 31 0 a 12 12 0 0 1 12 12 v 0 a 12 12 0 0 0 12 12 h -24"/>
<g class="terminal">
<rect height="22" rx="10" ry="10" width="68" x="597" y="851"/>
<text x="631" y="867">
OFFSET</text>
</g>
</g>

```

```
<g class="nonterminal">
<rect height="22" width="52" x="699" y="851"/>
<text x="725" y="867">
expr</text>
</g>
<path d=" M 689 862 h 10"/>
</g>
</g>
<path d=" M 477 826 h 10"/>
<path d=" M 539 826 h 10"/>
</g>
</g>
</g>
<path d=" M 375 826 h 10"/>
</g>
</g>
<path d=" M 993 70 h 5 a 5 5 0 0 1 5 -5 a 5 5 0 0 1 5 5 a 5 5 0 0 1 -5 5 a 5 5 0 0 1 -5 -5"/>
<path d=" M 25 70 h 10"/>
<path d=" M 983 70 h 10"/>
</g>
</svg>
```