

Mixed Week 7

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Tutorial

1. Identifiers are listed in order of their appearance in the source. Subscripts have been used to distinguish between different variables of the same name:
 - Line 1 – `foo`, defining; `input`, defining; `output`, defining.
 - Line 3 – `a1`, defining; `array`, applied.
 - Line 5 – `b1`, defining; `a1` applied.
 - Line 7 – `bar`, defining; `a2`, defining; `integer`, applied.
 - Line 9 – `b2`, defining; `boolean`, applied.
 - Line 11 – `a2`, applied; `d`, *unknown* (never defined).
 - Line 12 – `b2`, defining.
 - Line 15 – `bletch`, defining; `b3`, defining; `boolean`, applied; `c`, defining; `real`, applied; `integer`, applied.
 - Line 17 – `blerk`, defining.
 - Line 19 – `a3`, defining; `false`, applied.
 - Line 21 – `b3`, applied; `a3`, applied.
 - Line 25 – `blerk`, applied.
 - Line 26 – `b3`, applied.
 - Line 27 – `bletch` applied; `trunc` applied; `c`, applied.
 - Line 29 – `bletch` applied.
 - Line 33 – `b1`, applied.
 - Line 34 – `bar`, applied; `b1`, applied; `a1`, applied.
 - Line 35 – `b1`, applied; `bletch`, applied; `true`, applied; `false`, applied.
 - Line 36 – `writeln`, applied; `b1`, applied.
2. 3. The same subscripts have been used as in the previous question:

| Scope | Line(s) | Environment |
|----------------------------------|---------|--|
| Global | 1-37 | <i>predefined identifiers</i> (<code>array</code> , <code>true</code> , etc.) |
| Program (<code>foo</code>) | 1-37 | <code>a₁</code> (type : array[integer]), <code>b₁</code> (var : boolean), <code>bar</code> (proc), <code>bletch</code> (func : integer), <i>predefined identifiers</i> |
| Procedure (<code>bar</code>) | 7-13 | <code>a₂</code> (pointer : integer), <code>b₂</code> (var : boolean), <code>bar</code> (proc), <code>bletch</code> (func : integer), <i>predefined identifiers</i> |
| Function (<code>bletch</code>) | 15-30 | <code>b₃</code> (var : boolean), <code>c</code> (var : real), <code>blerk</code> (proc), <code>a₁</code> (type : array[integer]), <code>bar</code> (proc), <code>bletch</code> (func : integer), <i>predefined identifiers</i> |
| Procedure (<code>blerk</code>) | 17-22 | <code>a₃</code> (const : boolean), <code>b₃</code> (var : boolean), <code>c</code> (var : real), <code>blerk</code> (proc), <code>bar</code> (proc), <code>bletch</code> (func : integer), <i>predefined identifiers</i> |
| <i>Unknown</i> | | <code>d</code> (unknown) |

Practical

Not attempted. Didn't even read the question. I'm going to bed. $Z^Z Z^{\dots}$