Algol 60

Version 4.0.1

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1 Implementation

The “Algol 60” language for DrScheme implements the language defined by the “Revised Report on the Algorithmic Language Algol 60,” edited by Peter Naur.
2 Including Algol 60 Programs

Although Algol 60 is mainly provided as a DrScheme language, include-algol supports limited use of Algol 60 programs in larger programs.

```
(require algol60/algol60)
```

```
(include-algol path-string)
```

Includes the Algol 60 program indicated by `path-string` as an expression in a Scheme program. The included Algol 60 program is closed (i.e., it doesn’t see any bindings in the included context), and the result is always `#<void>`.
3 Language

The DrScheme and `include-algol` implementation departs from the Algol 60 specification in the following minor ways:

- Strings are not permitted to contain nested quotes.
- Identifiers cannot contain whitespace.
- Argument separators are constrained to be identifiers (i.e., they cannot be keywords, and they cannot consist of multiple identifiers separated by whitespace.)
- Numbers containing exponents (using the “10” subscript) are not supported.

Identifiers and keywords are case-sensitive. The boldface/underlined keywords of the report are represented by the obvious character sequence, as are most operators. A few operators do not fit into ASCII, and they are mapped as follows:

\[
\begin{align*}
times & \quad * \\
quotient & \quad \div \\
exponential & \quad ^ \\
less \ or \ equal & \quad <= \\
greater \ or \ equal & \quad >= \\
not \ equal & \quad != \\
equivalence & \quad == \\
implication & \quad => \\
and & \quad & \\
or & \quad | \\
negation & \quad !
\end{align*}
\]

In addition to the standard functions, the following output functions are supported:

\[
\begin{align*}
\text{prints}(E) & \quad \text{prints the string } E \\
\text{println}(E) & \quad \text{prints the string } E \text{ followed by a newline} \\
\text{printfn}(E) & \quad \text{prints the number } E \\
\text{printfnln}(E) & \quad \text{prints the number } E \text{ followed by a newline}
\end{align*}
\]

A prompt in DrScheme’s Interactions window accepts whole programs only for the Algol 60 language.