

NAME

caesar_version – the “version” library of OPEN/CAESAR

PURPOSE

The “version” library allows to access and control the version numbers (also called release numbers, revision numbers) of the tools and libraries making up the *OPEN/CAESAR* environment.

It is be used to check whether a **spec.c** file (generated from a source program) is up to date with respect to the **caesar_graph.h** file and other files and libraries of the *OPEN/CAESAR* environment. Version clashes between **spec.c** and **caesar_graph.h** can cause subtle errors very difficult to detect; the “version” library aims at preventing such clashes.

USAGE

The “version” library consists of:

- a predefined header file **caesar_version.h**;
- the precompiled library file **libcaesar.a**, which implements the features described in **caesar_version.h**.

Note: The “version” library is a software layer built above the primitives offered by the “standard” library.

FEATURES**CAESAR_TYPE_VERSION**

```
typedef double CAESAR_TYPE_VERSION;
```

CAESAR_TYPE_VERSION represents a version number, which is a positive floating-point number with a single digit after the decimal point.

CAESAR_LIBRARY_VERSION

```
CAESAR_TYPE_VERSION CAESAR_LIBRARY_VERSION ()  
{ ... }
```

This function returns the version number of the *OPEN/CAESAR* environment. This version number covers the **caesar_graph.h** file, as well as other **.h**, **.c** and **.a** files contained in the *OPEN/CAESAR* distribution. All these files are supposed to be mutually up to date and compatible.

CAESAR_COMPARE_VERSION

```
CAESAR_TYPE_BOOLEAN CAESAR_COMPARE_VERSION (CAESAR_V1, CAESAR_V2)  
CAESAR_TYPE_VERSION CAESAR_V1;  
CAESAR_TYPE_VERSION CAESAR_V2;  
{ ... }
```

This function returns **CAESAR_TRUE** if both version numbers **CAESAR_V1** and **CAESAR_V2** are identical, or **CAESAR_FALSE** if they are not.

Note: the standard C operator **==** should not be used for this purpose, because of problems inherent to the floating-point representation. For instance, version number **1.1** will not be exactly represented as **1.1**, but as **1.10000002384185791**, so it is possible that **1.1** is not strictly equal to **1.1**! Function

CAESAR_COMPARE_VERSION solves this problem by comparing both version numbers with a limited precision ($\pm 10^{-3}$).

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CAESAR_MATCH_VERSION

```
CAESAR_TYPE_BOOLEAN CAESAR_MATCH_VERSION (CAESAR_V1, CAESAR_V2)
    CAESAR_TYPE_VERSION CAESAR_V1;
    CAESAR_TYPE_VERSION CAESAR_V2;
    { ... }
```

This function returns **CAESAR_TRUE** if **CAESAR_LIBRARY_VERSION()** is contained in the numeric interval [**CAESAR_V1**, **CAESAR_V2**], or **CAESAR_FALSE** otherwise. **CAESAR_V1** and **CAESAR_V2** can be equal: in this case, the result is **CAESAR_TRUE** iff **CAESAR_LIBRARY_VERSION()** is equal to **CAESAR_V1**.

The parameters **CAESAR_V1** and **CAESAR_V2** delimit the bounds of an interval of acceptable version numbers for the value of **CAESAR_LIBRARY_VERSION()**, meaning that **spec.c** can be safely compiled and linked with any revision of the *OPEN/CAESAR* library whose version number is between **CAESAR_V1** and **CAESAR_V2** (bounds included).

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CAESAR_CHECK_VERSION

```
void CAESAR_CHECK_VERSION (CAESAR_V1, CAESAR_V2)
    CAESAR_TYPE_VERSION CAESAR_V1;
    CAESAR_TYPE_VERSION CAESAR_V2;
    { ... }
```

This procedure evaluates the following boolean expression:

CAESAR_MATCH_VERSION (CAESAR_V1, CAESAR_V2)

and aborts the execution if the result is equal to 0.

Note: This function should be called in the **spec.c** program, for instance at the beginning of procedure **CAESAR_INIT_GRAPH()**.

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CAESAR_PRINT_VERSION

```
void CAESAR_PRINT_VERSION (CAESAR_FILE, CAESAR_V)
    CAESAR_TYPE_FILE CAESAR_FILE;
    CAESAR_TYPE_VERSION CAESAR_V;
    { ... }
```

This procedure prints to file **CAESAR_FILE** a character string representing the version number **CAESAR_V**.

Before this procedure is called, **CAESAR_FILE** must have been properly opened, for instance using **fopen(3)**.

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AUTHOR(S)

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FILES

\$CADP/incl/caesar_graph.h	interface of the graph module
\$CADP/incl/caesar_*.h	interfaces of the storage module
\$CADP/bin.'arch'/libcaesar.a	object code of the storage module
\$CADP/src/open_caesar/*.c	source code of various exploration modules
\$CADP/com/lotos.open	shell script to run OPEN/CAESAR

SEE ALSO

Reference Manuals of OPEN/CAESAR, CAESAR, and CAESAR.ADT, **lotos.open(LOCAL)**, **caesar(LOCAL)**, **caesar.adt(LOCAL)**

Additional information is available from the CADP Web page located at <http://cadp.inria.fr>

Directives for installation are given in files **\$CADP/INSTALLATION_***.

Recent changes and improvements to this software are reported and commented in file **\$CADP/HISTORY**.

BUGS

Known bugs are described in the Reference Manual of OPEN/CAESAR. Please report new bugs to cadp@inria.fr