SEP #23 : Extend «diary()»

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Abstract

The diary() function creates a log of keyboard input and the resulting text output.

At the moment, the diary() function has a very ugly behavior (See the "Current Behavior" section) and is very limited. The aim of the SEP is to extend diary() to manage multiple diary simultaneously opened.

Current behavior

`diary(filename)`
> opens the file which path is given in ꜰ and register all subsequent Scilab console inputs and outputs.

`diary(0)`
> Closes the current diary

A 2nd `diary(filename)`
> Closes the current diary and opens another one.

This syntax has two drawbacks :
> - Only one diary can be open at once
> - If a diary is opened, a new call to diary closes the first one without warning or error. The first diary can be opened without the user know, for example, inside a toolbox function, this make the function shaky.

Rationale

Start a diary session

```
[id,file-out] = diary(filename,["new"|"append"])
```

Returns :

– id : a positive integer (>= 1) which is the diary session identifier.

– file-out : A string, the absolute path of the effective written file ()

The first input argument is a string that contain the path of the diary file. This can be a relative path or a absolute path.

The 2nd input argument controls if a new file is created ("new") or if diary() adds new content at the end of the file ("append"). If the 2nd input argument is not present, the default value is "new"

If the file stated as 1st input argument is already opened in Scilab, diary() returns an error.

When diary() is called with "new" mode : If "filename" already exists and is not empty, an effective filename "base(filemane)+_#+extension(filename)" is built, used, and returned by diary(filename) as a second output argument (beside id). The rank # would be set as the smallest integer for which the resultant filename does not yet exists.

List diary sessions

```
[ids, filenames] = diary()
[ids, filenames] = diary([],"list")
```

Returns

– a column vector of integer : identifiers list of opened diary sessions.

– a column vector of strings : absolute paths of the files associated with opened diary sessions.

Close diary session(s)

```
diary([],"close")
diary(0)
diary(filename,"close")
diary(id,"close")
```

– The first and second syntaxes close all opened diary sessions.

– The third syntax closes diary session(s) identified by "filename". If "filename" is a just a base-name and several diary sessions have been opened with the same base-name, it returns an error. For example :

```
--> diary(SCI+"/log.txt");
--> diary(TMPDIR+"/log.txt");
--> diary("log.txt","close")
 !--error
diary: Ambiguous value for input argument #1: give the
absolute path or the diary session id instead.
```

"filename" can be a single string or a character string array.

– The fourth syntax closes the diary session identified by "id" which is a positive integer or a matrix of positive integers.

Remark : diary(0) is retained as backwards compatibility

Pause/Resume diary session(s)

```
Diary([]       ,"pause"|"off")
diary(filename,"pause"|"off")
diary(id       ,"pause"|"off")
```

– The first syntax suspends all opened diary sessions.

– The second syntax suspend diary session(s) identified by "filename".

"filename" can be a single string or a character string array.

– The third syntax suspend the diary session identified by "id" which is a positive integer or a matrix of positive integers.

```
diary([]       ,"resume"|"on")
diary(filename,"resume"|"on")
diary(id       ,"resume"|"on")
```

– The first syntax resume all opened diary sessions.

– The second syntax resume diary session(s) identified by "filename".

"filename" can be a single string or a character string array.

– The third syntax resume the diary session identified by "id" which is a positive integer or a matrix of positive integers.

Does a diary session exists ?

```
diary(filename,"exists")
```

Return true if a diary session is currently opened with the file "filename", if not false. "filename" can be a single string or a character string array.

Diary & time-stamp

```
diary(filename,"open","prefix=Y-m-d H-i-s") // default
diary(filename,"open","prefix=U") // Seconds since the Unix Epoch
diary(filename,"open", ..
      [ "prefix=Y-m-d H-i-s" ; "prefix-only-commands" ] );
```

Examples :

```
2009-04-19 10:15:00 -->a  = rand(3,3)
2009-04-19 10:15:01 ans  =
2009-04-19 10:15:01
2009-04-19 10:15:01     0.2113249    0.3303271    0.8497452
2009-04-19 10:15:01     0.7560439    0.6653811    0.6857310
2009-04-19 10:15:01     0.0002211    0.6283918    0.8782165
2009-04-19 10:15:01
2009-04-19 10:15:09 -->diary(0);
```

```
1240215778 -->a  = rand(3,3)
1240215779 ans  =
1240215779
1240215779    0.2113249    0.3303271    0.8497452
1240215779    0.7560439    0.6653811    0.6857310
1240215779    0.0002211    0.6283918    0.8782165
1240215779
1240215788 -->diary(0);
```

```
2009-04-19 10:15:00 -->a  = rand(3,3)
                ans  =

                    0.2113249    0.3303271    0.8497452
                    0.7560439    0.6653811    0.6857310
                    0.0002211    0.6283918    0.8782165


2009-04-19 10:15:09 -->diary(0);
```

Filtering diary

```
diary(filename,"new","filter=command")
```
> Log only the input commands.

```
diary(filename,"new","filter=output")
```
> Log only the text output.

Example Usage

```
d1 = diary(TMPDIR + "/diary1.txt")
d2 = diary(TMPDIR + "/diary2.txt")

// some Scilab instructions …

// returns infos about opened diary
[ids, filenames]  = diary()

// close diary d1
diary(Diaryd1)

// close diary d2
diary(TMPDIR + "/diary2.txt")

// closes all diary
diary([],"close")
```

Changelog

```
1.0        — Allan CORNET — Initial version
1.1        — Pierre MARECHAL — Current Behavior Section
1.2        — Pierre MARECHAL — Add some syntaxes
1.3        — Pierre MARECHAL — Play/Resume diary session(s)
1.4        — Pierre MARECHAL — Diary & Timstamp (Thx to S. Gougeon for this
           idea)
1.5        — Pierre MARECHAL — Conflict with already existing files (Thx to
           S. Gougeon for this idea)
1.6        — Pierre MARECHAL — Filtering
```

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