

CoCoA-5 - Feature #346

Describe should indicate package name

29 Apr 2013 08:36 - John Abbott

<b>Status:</b>	Closed	<b>Start date:</b>	29 Apr 2013
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Anna Maria Bigatti	<b>% Done:</b>	100%
<b>Category:</b>	Parser/Interpreter	<b>Estimated time:</b>	2.22 hours
<b>Target version:</b>	CoCoA-5.4.0	<b>Spent time:</b>	2.20 hours
<b>Description</b> The <b>describe</b> command will produce the source code of a package function, but it does not indicate the package the function comes from. It should indicate the package (perhaps simply as a comment, so the source code produced remains fairly valid).  Try the following:  <pre>describe BinExp;</pre>  <b>2021-01 Describe cannot know the package name (see #10)</b> , so added functions and suggestions when calling describe for a user defined function			
<b>Related issues:</b>			
Related to CoCoA-5 - Support #208: describe \$package		<b>Closed</b>	<b>11 Jul 2012</b>
Related to CoCoA-5 - Feature #531: Package protected variables should know wh...		<b>Closed</b>	<b>09 Apr 2014</b>
Related to CoCoA-5 - Feature #1174: package of a function --> of an identifier!		<b>Closed</b>	<b>05 Apr 2018</b>
Related to CoCoA-5 - Design #1546: Improve 'describe' or 'print' for a function		<b>Closed</b>	<b>04 Dec 2020</b>

History

#1 - 18 Mar 2014 12:03 - John Abbott

The relevant source code appears to be in Interpreter.C:229:

```
void UserDefinedFunction::describe(intrusive_ptr<OutputStreamValue> out) const...
```

#2 - 18 Mar 2014 12:14 - John Abbott

Packages export their variables in the function:

```
void PackageStatement::implExecute(RuntimeEnvironment *runtimeEnv)
```

in file Interpreter.C:3885

The relevant code appears to be in lines 3939-3948, though I'm not sure I understand it all.

### #3 - 18 Mar 2014 15:48 - John Abbott

A possibly simpler solution to the problem would be to have a function **PackageOf** which says which package protected a package-protected variable. The result would presumably be a string.

### #4 - 02 Apr 2014 17:34 - Anna Maria Bigatti

- Target version set to CoCoA-5.1.0 Easter14

### #5 - 04 Apr 2014 17:06 - John Abbott

- Target version changed from CoCoA-5.1.0 Easter14 to CoCoA-5.?.?

### #6 - 05 Apr 2018 13:43 - John Abbott

- Related to Feature #1174: package of a function --> of an identifier! added

### #7 - 13 Jun 2018 14:51 - John Abbott

The CoCoA fn **Starting** says when a symbol comes from a package, and which package it comes from, so describe should be able to do it too! Investigate!

### #8 - 11 Dec 2020 11:48 - Anna Maria Bigatti

- Related to Design #1546: Improve 'describe' or 'print' for a function added

### #9 - 15 Jan 2021 09:13 - John Abbott

Since Anna seems to have solved issue [#1174](#), is it now possible to make progress here?

Since normal printing now produces the source code of a CoCoA function, what should describe do when given a package-exported variable? Does describe operate with the variable or on the value of the variable... or both?

### #10 - 15 Jan 2021 20:52 - John Abbott

- Status changed from New to Resolved

- % Done changed from 0 to 60

## IMPORTANT

- the describe command describes a *value* and not a *variable*;
- a fn defn **does not contain any information** about which package the defn was in;
- the package info is associated with the protected top-level variable created by an export command.

Given this situation it is **impossible** for describe know the package (since it evaluates its argument).

### #11 - 15 Jan 2021 20:56 - John Abbott

Since print and sprint now produce the body of a CoCoA-5 function, it superfluous for describe to do the same.

## SUGGESTION:

when describe applied to a function it can produce a succinct description similar to what print used to produce *e.g.* <built-in function> and <user-defined function>

Note: if a fn "knows" whether it was defined in a package, it might be possible to have also <package-defined function>

JAA is hoping Anna will modify the impl of describe to behave as suggested here (we did agree on this during today's call).

**#12 - 15 Jan 2021 20:56 - John Abbott**

- Target version changed from CoCoA-5.?.? to CoCoA-5.4.0

**#13 - 22 Jan 2021 08:23 - Anna Maria Bigatti**

- Description updated

- Status changed from Resolved to Feedback

- Assignee set to Anna Maria Bigatti

- % Done changed from 60 to 90

**#14 - 19 Mar 2021 12:48 - John Abbott**

- Description updated

- Status changed from Feedback to Closed

- % Done changed from 90 to 100

- Estimated time set to 2.22 h

As reported in comment 10, the original request cannot be fulfilled -- instead use new fn **PackageOf**, see issue [#1174](#).