CoCoA-5 - Design #476

Review utility of package IO

14 Mar 2014 20:42 - John Abbott

Status:	In Progress	**Start date:**	14 Mar 2014
Priority:	Low	**Due date:**	
Assignee:	Anna Maria Bigatti	**% Done:**	40%
Category:	Cleaning	**Estimated time:**	0.00 hour
Target version:	CoCoA-5.4.2	**Spent time:**	2.65 hours

Description

Package io does not do much currently; can we eliminate it?

History

#1 - 02 Apr 2014 17:34 - Anna Maria Bigatti

- Target version set to CoCoA-5.1.0 Easter14

#2 - 07 Apr 2014 18:06 - John Abbott

- Target version changed from CoCoA-5.1.0 Easter14 to CoCoA-5.1.1 Seoul14

#3 - 22 Jul 2014 08:47 - Anna Maria Bigatti

- % Done changed from 0 to 10

At the moment it is only exporting format (which I find quite useful).
I updated Format/format and checked the manual.

Another function defined there is StarPrintFold: now StarPrint is no longer needed, but the Fold part can still be useful.

#4 - 28 Jul 2014 16:28 - Anna Maria Bigatti

- Assignee set to Anna Maria Bigatti

- Priority changed from Normal to Low

- Target version changed from CoCoA-5.1.1 Seoul14 to CoCoA-5.?.?

I don't think we should eliminate it.
In time, we can see what can be useful and advertized (low priority)

#5 - 22 Sep 2017 18:00 - John Abbott

- Status changed from New to In Progress

Indeed some form of "folded" printing could be useful for large outputs (especially inside emacs which has problems with long lines).

Currently **StarPrintFold** does not work, but the manual suggests that it should work.
Anna correctly points out that the fn is not exported from the package, but attempting to call StarPrintFold does indeed produce the suggestion to use the name **$io.StarPrintFold**

It should not be too hard to revise the package so that StarPrintFold works. I wonder what the name of the fn should be; the Star part is no longer necessary.

#6 - 29 Jan 2019 14:42 - John Abbott

- Target version changed from CoCoA-5.?.? to CoCoA-5.3.0

JAA thinks we can remove **StarPrint** and **StarPrintFold** from the CoCoA-5 manual (and also from **io.cpkg5**)

It **might** be useful to have a **fold** function for a string: it would take a string and a width, and then
print out the string trying not to exceed the given width (I'm not yet clear what the semantics should be).

#7 - 15 Feb 2019 12:14 - Anna Maria Bigatti

John Abbott wrote:

> JAA thinks we can remove **StarPrint** and **StarPrintFold** from the CoCoA-5 manual (and also from **io.cpkg5**)
>
> It **might** be useful to have a **fold** function for a string: it would take a string and a width, and then
> print out the string trying not to exceed the given width (I'm not yet clear what the semantics should be).

I agree.
Indeed **StarPrint** appears as "not yet implemented", so we could just remove it.
And I also agree that the **fold** function could be useful.
I'll have a look.

#8 - 15 Feb 2019 13:09 - John Abbott

I have just looked quickly on internet for information about the unix command **fold**:

- it seems there are three similar utilities: **fold** which inserts newlines after every K characters, **fmt** which inserts newlines next to whitespace, and **par** which is purportedly "smarter" than fmt
- at the moment my preference is for a function which takes a string and returns a string (rather than a procedure which takes a string and prints directly); a user who calls the function at top-level will probably not notice a difference (unless the string is very long).

I think it may be reasonable to offer two functions: one like **fold** (simple, easy to understand, but may insert newlines in "funny places"), and one like **fmt** (or par) which inserts newlines only in "nice" places (*e.g.* next to whitespace). The latter function might be useful for printing out large polynomials in a slightly more readable way (but who want to read such a large poly anyway?)

The two functions might even have the same name:

- perhaps with an extra parameter saying what strategy to use for inserting spaces?
- perhaps it works like **fold** if the arg is a string, and works like **fmt** if the arg is ringelem (or list or matrix or ???)

#9 - 15 Feb 2019 13:44 - John Abbott

What about the other junk in **io.cpkg**?

- **format** is exported
- **SprintTrunc** appears in the CoCoA-5 manual, but it is not exported, and does not seem to be used in any package... Delete it?
- **Print_Aliases** is obsolete?
- **Print_Table** seems like a nice function (but old-fashioned name)
- **Print_Matrix** looks dodgy to me
- **Tagged** !! shouldn't this give a syntax error?

#10 - 15 Feb 2019 14:13 - Anna Maria Bigatti

- % Done changed from 10 to 30

John Abbott wrote:

> What about the other junk in **io.cpkg**?
>
> - **format** is exported

and is used

> - **SprintTrunc** appears in the CoCoA-5 manual, but it is no exported, and does not seem to be used in any package... Delete it?

In the manual, but "NOT YET IMPLEMENTED", and indeed does not work.

> - **Print_Aliases** is obsolete?

I'd say yes.

> - **Print_Table** seems like a nice function (but old-fashioned name)

We wrote a PrintTable for a matrix in experimental.cpkg.
Should we move it to io.cpkg5? to mat.cpkg5?

```
/**/ PrintTable(StdDegRevLexMat(4));
/**/ PrintTable(StdDegRevLexMat(4), 1);
```

> - **Print_Matrix** looks dodgy to me

I agree, and the new one is more flexible.

> - **Tagged** !! shouldn't this give a syntax error?

no, it is not exported.
(that was our choice in the cocoa5 language for making packages less painful than cocoa4).
This was common in packages with tags to avoid overwriting them.
Pointless now, as we changed the printing philosophy (see PrintRes, PrintBettiMatrix,..).

Instead, if you think of the recursion, it does say "Too many nested scopes" (after fixing other things)

#11 - 01 Oct 2019 14:27 - John Abbott

- Target version changed from CoCoA-5.3.0 to CoCoA-5.4.0

If the package exports only **format**, perhaps that package name should be changed to format?

#12 - 28 Jan 2020 11:57 - John Abbott

- % Done changed from 30 to 40

I have implemented a **fold** function in CoCoALib, and exported it to CoCoA-5.

I have not implemented a "smart" fold fn; it would be considerably more complicated, and I'm not sure it would really be that much more useful.

#13 - 03 Feb 2022 19:09 - John Abbott

- Target version changed from CoCoA-5.4.0 to CoCoA-5.4.2