CoCoA-5 - Bug #104

Misprints suggestions: Z --> ZZ

15 Mar 2012 12:31 - Anna Maria Bigatti

Status:	Closed	**Start date:**	15 Mar 2012
Priority:	Normal	**Due date:**	
Assignee:	John Abbott	**% Done:**	100%
Category:	Parser/Interpreter	**Estimated time:**	3.00 hours
Target version:	CoCoA-5.1.1 Seoul14	**Spent time:**	1.90 hour

Description

CoCoA-5 is very helpful with suggestions on misprints.
Is it possible to improve this case? i.e. suggest "ZZ" as well?

```
Use Z/(5)[x,y,z,w];
ERROR: Cannot find a variable named "Z" in scope.
A similarly named variable (that you might need to import) is: "z"
Use Z/(5)[x,y,z,w];
    ^
```

Related issues:

Related to CoCoA-5 - Bug #321: interpreter proposes no near misses for "bin"	**Closed**	**25 Feb 2013**

History

#1 - 19 Mar 2012 11:42 - John Abbott

Are you asking to add

1. special checks for the names "Z" and "Q" in a context where a ring is to be expected?
2. special checks for "Z" and "Q" in any context?
3. some extra checks for single letter names (in any context)?

JAA thinks (1) could be difficult. (2) should be easy. (3) requires clarification.

#2 - 02 Apr 2014 17:34 - Anna Maria Bigatti

- Target version set to CoCoA-5.1.0 Easter14

#3 - 09 Apr 2014 17:31 - John Abbott

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

#4 - 27 Aug 2014 18:32 - Anna Maria Bigatti

Some tests:
ZZ is suggested when giving ZZZ, or zz, so it is indeed in the list.
Maybe the problem is just that Z is too short.

The function doing the job is collectSimilarlyNamedIdentifiers in Interpreter.C (not a trivial function...)

#5 - 27 Aug 2014 18:40 - Anna Maria Bigatti

- Status changed from New to In Progress

- % Done changed from 0 to 10

#6 - 28 Aug 2014 11:00 - Anna Maria Bigatti

some more tests (just to understand what the algorithm is doing).

```
/**/ AA := 3;

/**/ A;    --> nothing
/**/ AAa;  --> "AA"
/**/ Af;   --> "AA", "DF", "LF", "NF"
/**/ AaB;  --> "AA"
```

#7 - 28 Aug 2014 12:43 - John Abbott

Another important function is maximumDistanceForSimilarIdentifiers (Interpreter.C:921) which says how many "changes" (ignoring case) are allowed between "similar" identifiers. It sets the value to 0 for identifiers of length 1. We can try increasing it to 1 for identifiers of length 1 -- I presume the empty string is not allowed as an identifier 8-0

#8 - 02 Sep 2014 12:51 - John Abbott

- % Done changed from 10 to 20

I have just tried increasing to 1 the max distance for length 1 identifiers. Not sure whether I like the result. Here is what I obtained in a couple of simple tests (in a fresh CoCoA-5 session):

```
>>> Use Z/(5)[x,y,z,w];
--> ERROR: Cannot find a variable named "Z" in scope.
Similarly named variables (that you might need to import) are: "R", "ZZ", "x", "y", "z"
--> Use Z/(5)[x,y,z,w];
-->      ^
```

and somewhat predictably

```
>>> use Q[a,b,c];
--> ERROR: Cannot find a variable named "Q" in scope.
Similarly named variables (that you might need to import) are: "QQ", "QR", "R", "x", "y", "z"
--> use Q[a,b,c];
-->      ^
```

I can imagine that in a non-fresh CoCoA-5 session there could easily be many more single letter identifiers in the list of proposed names *e.g.* A, f, F, I, J etc.

#9 - 05 Sep 2014 16:14 - Anna Maria Bigatti

- Status changed from In Progress to Feedback

- Assignee set to John Abbott

- % Done changed from 20 to 80

After a last look at the code I agreed with John's choice (2) in mesg 1: just to add the very special cases for "Z" and "Q" and ignore the other single letters.

#10 - 05 Sep 2014 16:15 - Anna Maria Bigatti

- Estimated time set to 3.00 h

#11 - 11 Sep 2014 17:38 - John Abbott

- Status changed from Feedback to Closed

- % Done changed from 80 to 100