

...*Pi* continued from page 8

```
to getdiameter :distance
fd 1
if not colorunder = bg [output
:distance]
getdiameter :distance + 1
end

to record.data
addr
putfield "circumference
:circumference
putfield "diameter measure
putfield "approx circumference /
diameter
end
```



New Books

There are two exciting new books on constructionism available from Ablex Publishing Corporation, 355 Chestnut Street, Norwood, NJ 07648. Each book is available in cloth for \$65.00 and paperback for \$29.95. The descriptions that follow are from the publisher's advertisement. I hope to have reviews of these books in a future issue of the *CLIME News*.

Constructionism. Edited by Idit Harel and Seymour Papert (MIT Media Lab).

In 1985 the Media Lab was created at MIT to advance the idea that computation would give rise to a new science of expressive media. Within the Media Lab, the Epistemology and Learning Group extends the traditional definition of media by treating as expressive media materials with which children play and learn.

The group's work follows a paradigm for learning research called Constructionism. Several of the chapters directly address the theoretical formulation of Constructionism, and others describe experimental studies which enrich and confirm different aspects of the idea. Thus this volume can be taken as the most extensive and

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environments. Compare this situation with the exciting Logo projects created by students and teachers and the reflective quality of Logo-using educators who are challenging the educational status quo. Logo provides a tool and an environment in which learners are not imposed upon by the design of the tool. Logo supports the empowerment and individual expression of the user. Logo does not try to predict how the user will choose to use it. LogoEnsemble is not only able to be shaped by its users, but its power is greater than the sum of its parts. Imagine the potential of LogoEnsemble in the hands (and minds) of creative teachers and learners!

Is it a Database or a Spreadsheet?

LogoEnsemble has three main file formats: LogoWriter pages, text files, and databases. The LogoEnsemble database may be thought of as the "third side" of the page and a database may be shared by several pages.

The database is comprised of rows, columns, and cells. The rows represent records and the columns represent fields. Cells are the intersection of a record and field. The fields are numbered and may be named. The names of fields behave like reporters, outputting the contents of the field in the currently selected record. This allows for fields to function just like variables - in this case they are visible containers.

Any Logo operation, including mathematical and list processing operations, may be performed on a cell. This affords the user with the opportunity to create "calculated fields" or a spreadsheet. By using LogoEnsemble's keyboard events, a user can evoke powerful calculations at the touch of a key. (See the two LogoEnsemble example projects elsewhere in this issue.)

Logo procedures (and the turtle) can read and write to the database/spreadsheet at any time. Flipping

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