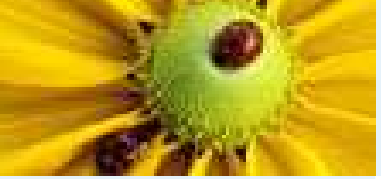
Programming Tools on *n?x

make, gdb, shell, etc.

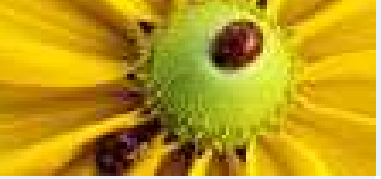
LUG

BITS, Pilani - K. K. Birla Goa Campus

http://www.bits-goa.ac.in/CSIS/CSIS.htm



Introduction



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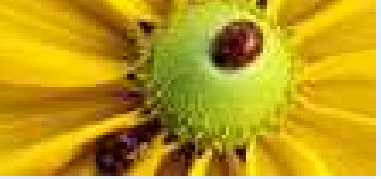

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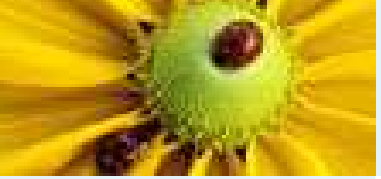

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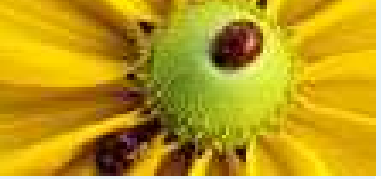

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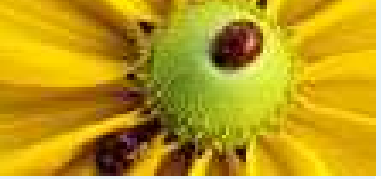

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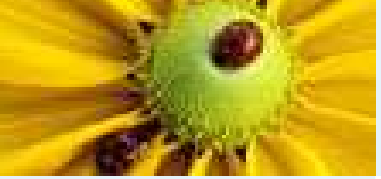

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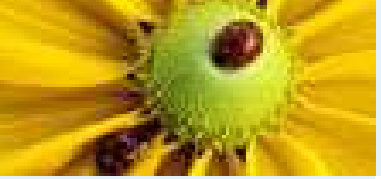

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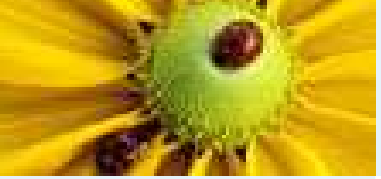

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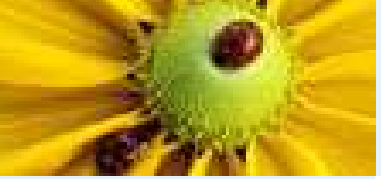

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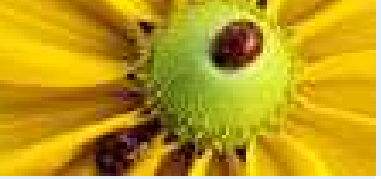

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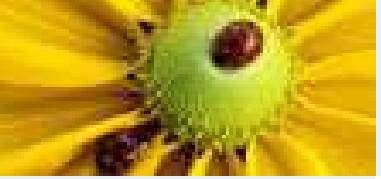

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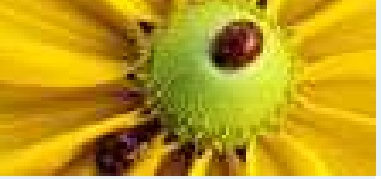

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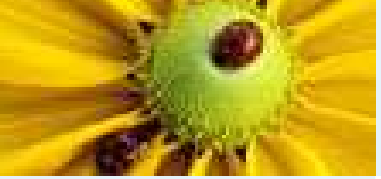

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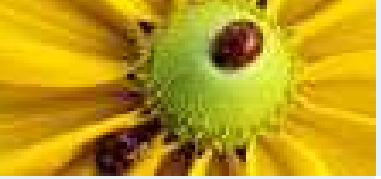

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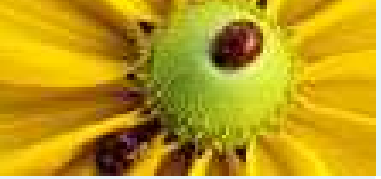

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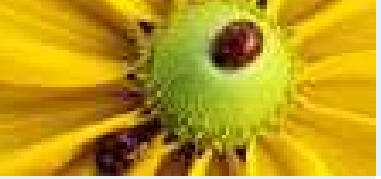

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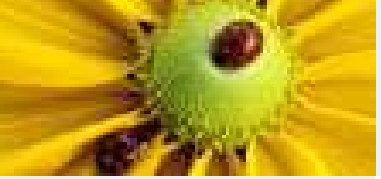

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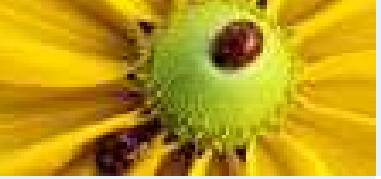
- Use a random number generator program for generating test files with varying sizes and combinations (I'll share mine)



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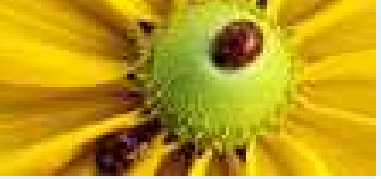

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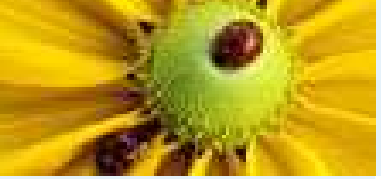

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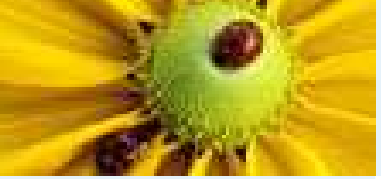

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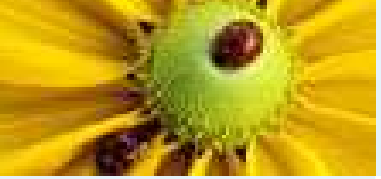
- And compile with the debug macro defined while testing



Using `make`

See the sample makefile.

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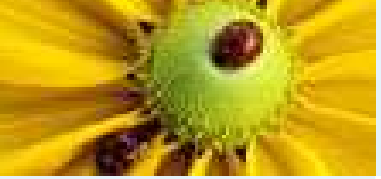

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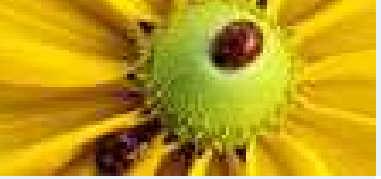

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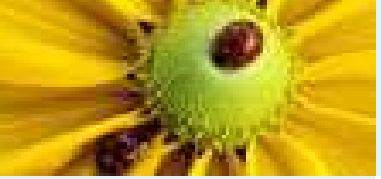

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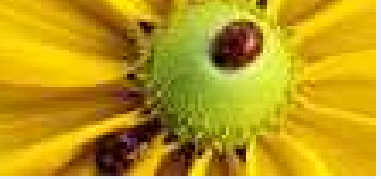

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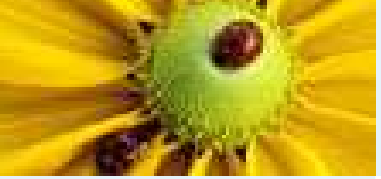
- On the following line, the means to achieve the target, using the variables and shell commands, and other targets



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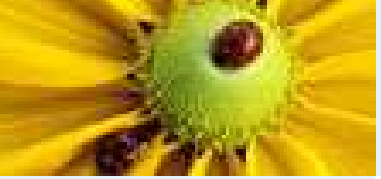

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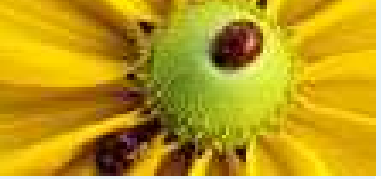
- Very rarely these systems hang because of overload. Not much overheating too, unless the PC is bad. I have run laptops on `GNU/Linux` for weeks at a stretch doing hard numbercrunching unattended, handling even long powerdowns without need to rerun, *unattended*. All you need to do is organize and do some shell-programming.



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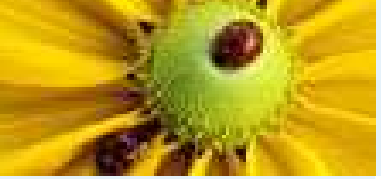

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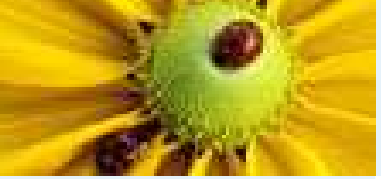

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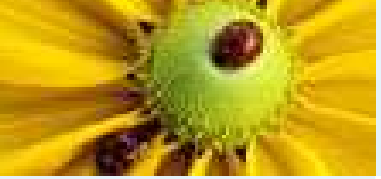
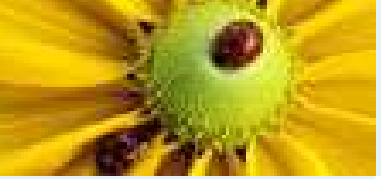
- In yet other terminals, you can keep open (running `vi` clones) your test input files, modify them time to time, save and test their effects in a similar manner. Of course, if you only change input, you do not need to recompile.



Debugging with gdb



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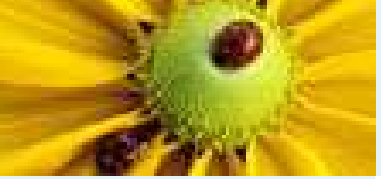

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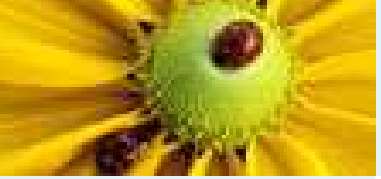

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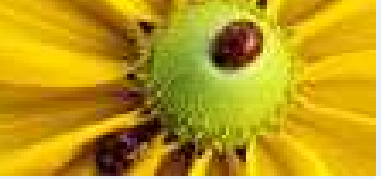

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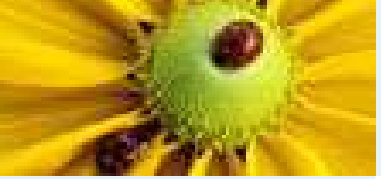

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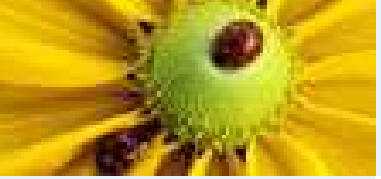

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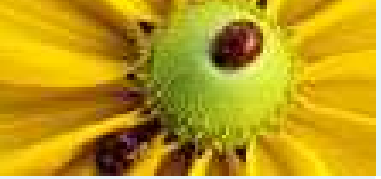

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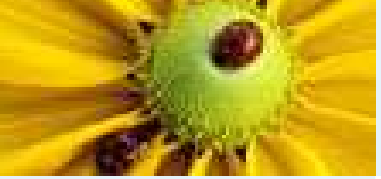

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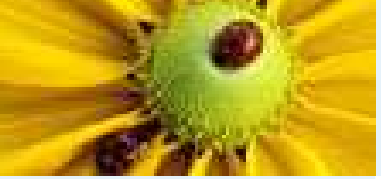

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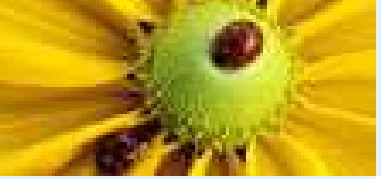

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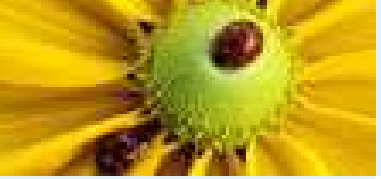

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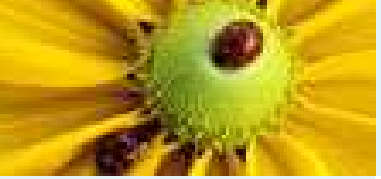

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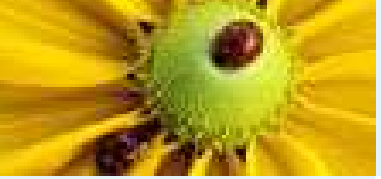
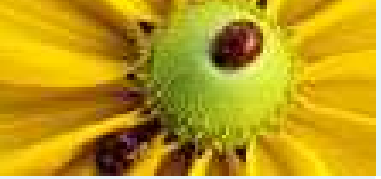
- - And do many many many more things, including scripting and off-line unattended debugging!



Laborare est Orare

- Seeing is believing ...



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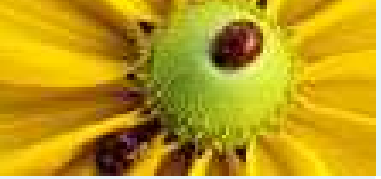

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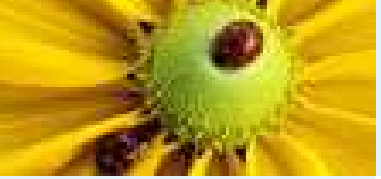

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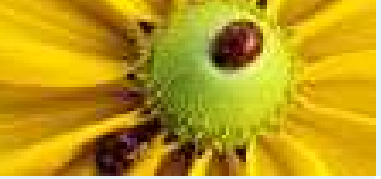
- Look at the program BubbleSort.c bundled with this.



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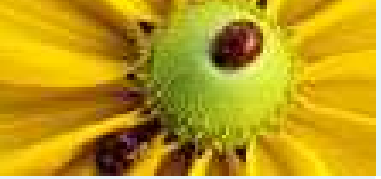

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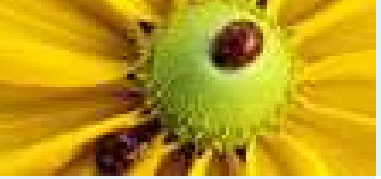

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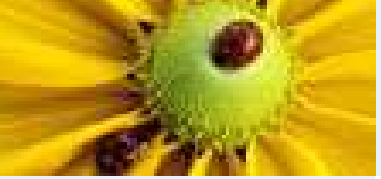

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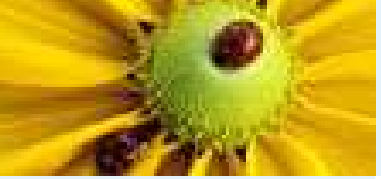

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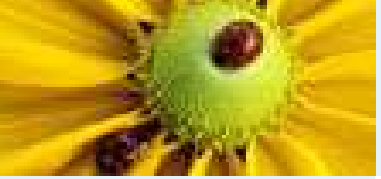

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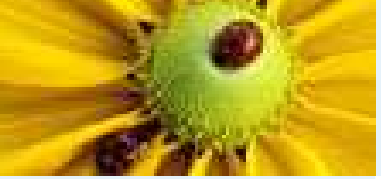
- Issue the following commands in a `bash` shell when the pwd is the directory containing the Makefile and BubbleSort.c bundled here:



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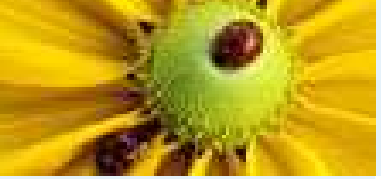

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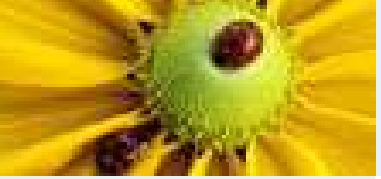

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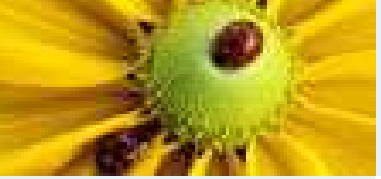

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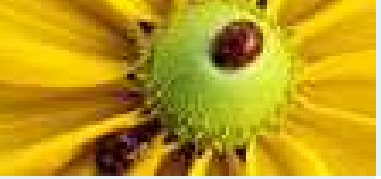

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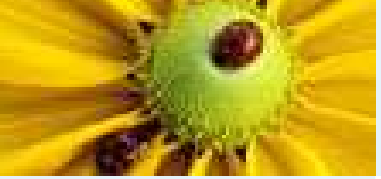

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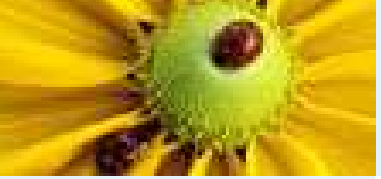

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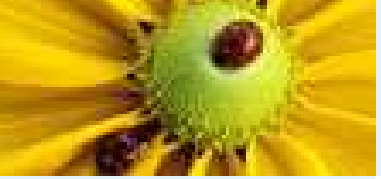
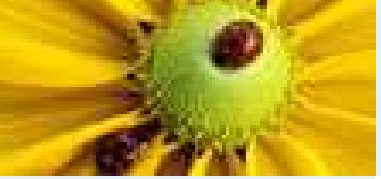
- Wait patiently. Now (after quite some time) you get in `sortestout` two columns: n and the no. exchanges of BubbleSort on the randomly generated input of size n. To speed up, use just `make` instead of `make debug` above.



Plotting the Graph

- Now plot the graph by taking the two columns in `sortestout` as `x` and `y` columns



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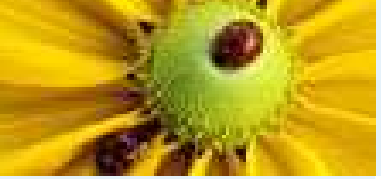
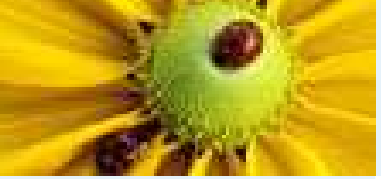
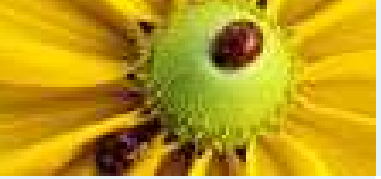


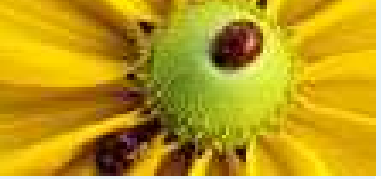
Next Part



- Stop



- Stop
- Watch



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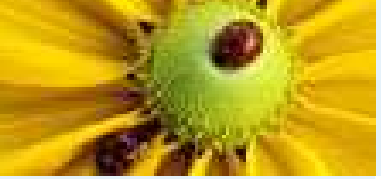

- Stop
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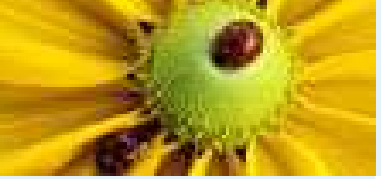
- Do not go



- Stop
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- Until you do what this tells you to do
  - Work
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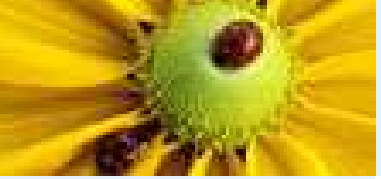

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- Or regress ? ;-)