GROUP QUIZ SUBMISSIONS INSTRUCTIONS:

- Your work must be submitted by 6 p.m, March 12. Submission must be done from within the classroom.

- Submit your work on **handin**, to the directory **158quiz7**.

- Your **.tar** file name must conform to the rules explained in our Syllabus, Section 19.4.

- Your **.tar** file must comprise one file, named **GrpQuiz.R**.

My grading script will be

```
source ("GrpQuiz.R")
# set cls, f, nsubints, niters (not shown)
findroots(cls,f,nsubints,niters)
```

1. This problem will be similar to the root-finding examples we've seen. Here we are given a function **f()**, known to have one *or more* roots in (0,1), which you will write R Snow code to find. The call form will be

```
findroots(cls,f,nsubints,niters)
```

with arguments as follows:

- **cls:** The Snow cluster.

- **f:** The function whose roots are to be found.

- **nsubints:** Number of subintervals in each iteration, to be explained below.

- **niters:** Number of iterations.

The return value is the vector of roots found, to the accuracy of the current subinterval width.

The function **f()** is assumed to be continuous. If you wish to impose any additional restrictions on it, consult with me. It is not known how many roots it has.

At each iteration, each of the Current Intervals will be divided into **nsubints** subintervals, each one of which will be checked for a sign change. The Current Interval starts as (0,1), but at any later iteration, there may be multiple Current Intervals waiting to be checked.

You are welcome to download code from the Web, as long as it doesn't requite compilation. The preceding sentence should not be construed to mean that a Web search necessarily be helpful.

Extra Credit will be given for the three fastest versions of the code. Note that in order to test your code's speed, you'll need a function **f()** that takes a nontrivial amount of time to evaluate, especially over many calls.