README

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Description: Console application that utilizes threads and the Monte Carlo method to estimate pi.
Purpose: To get introduced to threads in c#.

Files:

- Program.cs: Only file containing two classes Program and FindPiThread.

How to Run:

It is assumed that the user will be running the code from the Visual Studio IDE.

Classes:

- Program:
  Houses main() which acts as the main driver of the program and does calculations with threads bound to functions of an aggregation of FindPiThread.
- FindPiThread:
  Contains logic to simulate throwing darts and record how many landed on the board.

Design Decisions:

The main()handles all I/O. It asks the user for the number of Threads and Darts to use. The number of threads are created and each is given a unique FindPiThread's ThrowDarts() function to run with the number of darts being passed to said function as a parameter. All threads are completed, pi is estimated based on their results and displayed, and the elapsed time to complete the calculation is displayed.

Bugs:

It is assumed that the user will not actively try to crash the program. It is not designed to handle input of a different type then what it asks for.

Extra Credit:

The extra credit to keep track of the time it takes for the calculations to complete from the first loop to the estimation of pi is implemented using a Stopwatch object and output on the console in seconds.