

## Parfor: compare serial/parallel

Mathworks, slight modif. by HA, Fri Nov 18 11:57:00

### Running in serial addpath

```
addpath ../Mathworks_tutorials/  
type ex_serial
```

```
function a = ex_serial(M, N)  
% -----  
% EX_SERIAL performs N trials of  
% computing the largest eigenvalue  
% for an M-by-M random matrix  
%  
% Inputs:  
% M    number of rows and columns  
%      of each matrix  
% N    number of trials  
%  
% Output:  
% a    vector of largest eigenvalues  
%  
% Example:  
% >> a = ex_serial(50,4000);  
  
a = zeros(N,1);  
for I = 1:N  
    a(I) = max(eig(rand(M)));  
end  
  
% Copyright 2010 - 2014 The MathWorks, Inc.
```

```
tic; a1 = ex_serial(50,10000); t1 = toc
```

```
t1 = 23.5324
```

### Running in parallel

```
gcp; % open parallel pool if none is open
```

```
Starting parallel pool (parpool) using the 'local' profile ... connected to 2 workers.
```

```
tic; a2 = ex_parallel(50,10000); t2 = toc;
```

### parfor instead of for

#### Compare processing times

```
disp(['Serial processing time: ' num2str(t1)])
```

```
Serial processing time: 23.5324
```

```
disp(['Parallel processing time: ' num2str(t2)])
```

Parallel processing time: 22.059

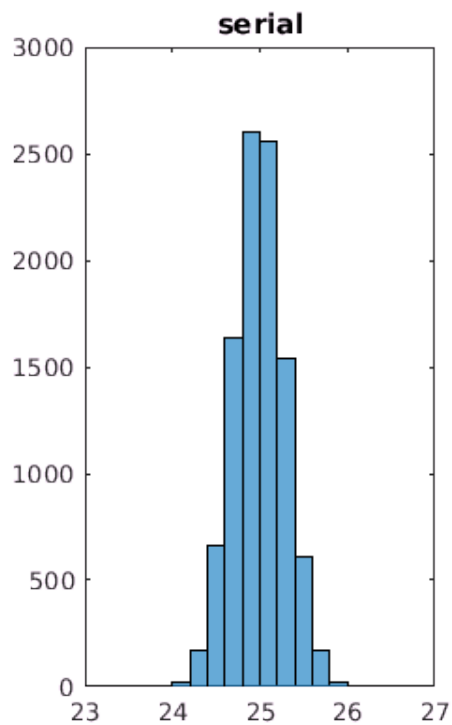
```
delete(gcf) % Remember to close your pool!  
t1/t2
```

ans = 1.0009

```
t1/t2 % Triton 24 workers  
{  
ans =  
13.2297 % Amazing !!  
}
```

## Comparing results

```
subplot(1,2,1)  
histogram(a1, 23:0.2:27), xlim([23 27]). title('serial');
```



```
subplot(1,2,2)
histogram(a2, 23:0.2:27), xlim([23 27]), title('parallel')
```

