Parallel Programming Exercise 20-Nov-17

Warm-up: Think about how you would parallelize the code on slides 22 and 29 of the Nov 13 and 15 lecture slides.

Exercise 1: Parallelize the following calculation of the factorial of each element of a random vector a. What effect does the choice of scheduling have on the runtime? What if a[i] = i?

```
for (i = 0; i < n; i++) {
   b[i] = 1;
   for (j = 1; j < a[i]; j++)
      b[i] = b[i] * j;
}
```

Exercise 2: Parallelize the following calculation:

```
for (i = 0; i < n; i++) {
   a[i] = a[i-1] + a[i] + a[i+1];
   b[i] = 2^b[i] + 2^-b[i] + 3^b[i] + 3^-b[i];
}
```

Hint: You shouldn't have to do much to address the dependencies in a[i].