Worksheet #32: UPC data distributions

Name: _____   Netid: _____

In the following example (which is similar to slide 17, but without the blocking), assume that each UPC array is distributed by default across threads with a cyclic distribution. In the space below, a) identify an iteration of the upc_forall construct for which all array accesses are local, and b) an iteration for which all array accesses are non-local (remote). You can assume any values for THREADS in the 2…99 range that you choose for parts a) and b). Explain your answer in each case.
Note that each shared array's distribution always starts with the first element assigned to thread 0 (not where the previous array may have ended).

```
shared int a[100],b[100], c[100];
int i;
upc_forall (i=0; i<100; i++; (i*THREADS)/100)
    a[i] = b[i] * c[i];
```