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Parallel Problems
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9. The input to this problem is a character string C of n letters. The problem is to find the largest k such that

$$C[1]C[2]\dots C[k] = C[n-k+1]\dots C[n-1]C[n]$$

That is, k is the length of the longest prefix that is also a suffix. Give a EREW parallel algorithm that runs in poly-logarithmic time with a polynomial number of processors.

10. The input to this problem is a character string C of n letters. The problem is to find the largest k such that

$$C[1]C[2]\ldots C[k] = C[n-k+1]\ldots C[n-1]C[n]$$

That is, k is the length of the longest prefix that is also a suffix. Give a CRCW parallel algorithm that runs in constant time with a polynomial number of processors.

11. Design a parallel algorithm for adding two n-bit integers. You algorithm should run in O($log\ n$) time on a CREW PRAM with n processors.
NOTE: If your algorithm is EREW, you might want to rethink since I don't know how to do this easily with out CR.
HINT: Use divide and conquer and generalize the induction hypothesis.