1071-57-217 **Gyo Taek Jin*** (jingyotaek@kaist.ac.kr), Department of Mathematical Sciences, KAIST, Daejeon, 305-701, South Korea, and **Hwa Jeong Lee** (hjwith@kaist.ac.kr), Department of Mathematical Sciences, KAIST, Daejeon, South Korea. *Prime knots whose arc index is smaller than the crossing number.*

A knot can be embedded in a book of finitely many half planes in the 3-dimensional Euclidean space so that each half plane intersects the knot in a simple arc. The minimal number of half planes needed for such an embedding of a knot is called the arc index of the knot. It is known that the arc index of alternating knots is the minimal crossing number plus two and that the arc index of prime nonalternating knots is less than or equal to the minimal crossing number. In this work, we show that the existence of certain local diagrams indicates that the arc index is strictly less than the crossing number. We also give a list of 13 crossing prime nonalternating knots whose arc index is 12. (Received March 06, 2011)