A graph $G$ is asymmetric if its automorphism group of vertices or edges is trivial. Any graph can be made asymmetric by removing some number $r$ of edges and/or adding some number $s$ of edges. We define the asymmetric index of a graph $G$, denoted $ai(G)$, to be the minimum of $r + s$ needed to transform $G$ into an asymmetric graph. We determine the asymmetric index for various families of graphs. In addition, we investigate $k$-regular asymmetric Hamiltonian graphs and determine infinite families for $k = 3$ and $k = 4$. Furthermore, we show the existence of $k$-regular asymmetric Hamiltonian graphs for each $k > 6$.

Keywords: asymmetric graphs; Hamiltonian graphs