

The computably enumerable (c.e.) sets form a lattice \mathcal{E} under set inclusion. Determining which classes of sets and degrees are definable in the lattice has been an important topic of study for many years. Note that a class of degrees is said to be definable if it is exactly the class of degrees of a definable class of sets. For example, Martin showed that the high degrees are exactly the degrees of maximal sets, which are definable in \mathcal{E} . Thus, the high degrees are definable. It has been shown by Cholak and Harrington that all other upward closed jump classes are definable, except for the nonlow degrees. We use automorphisms to show that in fact the nonlow degrees are not definable. There is a nonlow degree such that every element of that degree is automorphic to a low set. We will also discuss the history of both definability and automorphism problems. While it is now known which jump classes are definable in \mathcal{E} , there are still many open questions about the structure.