

Graph coloring problem (GCP) is one of the most important concepts in graph theory and is used in many real-world problems such as time scheduling and register allocation. The aim of GCP is to color vertices of any given graph such that the colors on adjacent vertices are different. This problem is NP-hard. There are many heuristic algorithms that can be used to find an approximate solution. The main aim of this paper is to implement an artificial intelligence that tries to choose the most appropriate algorithm for graphs. The next aim of this paper is to improve the interchange method. In this thesis, we have designed a new algorithm for GCP called CLF (connected largest first). It is a modification of the largest first algorithm.