Abstract

Here we studied the introduction of the basic concepts of graph theory then we briefly introduce the planar graphs and related concepts. in this thesis we reviewed the literature related to the coloring of the graph. As coloring of the graph is the assignment of the colors to the vertices of the graph such that adjacent vertices have different colors. We also mention some applications of graph coloring. We also discuss some properties of the chromatic polynomial and we mention some of its example. As chromatic polynomial gives the number of ways how to properly color a graph. We also discuss few results related to the chromatic number. As chromatic number is the minimum number of colors required to color a graph. Finally we take a look at the Tutte polynomial. I have worked to introduce the generalized form of chromatic polynomial of specific kind of planar graphs.