CSIT113
Problem Solving

Workshop - Week 11

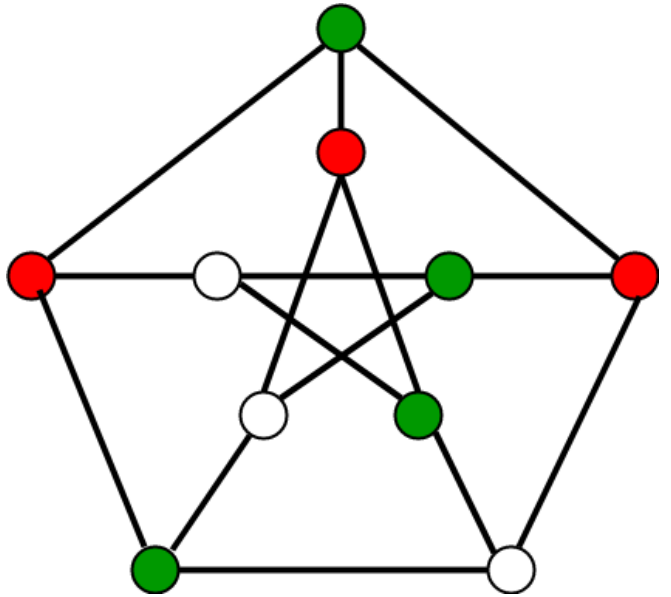
Magic square

A magic square of order 3 is a 3 x 3 table filled with nine distinct integers from 1 to 9 so that the sum of the numbers in each row, column, and two corner-to-corner diagonals is the same.

Find all the magic squares of order 3.

Graph coloring

- Given an undirected graph and a number m, determine if the graph can be coloured with at most m colours such that no two adjacent vertices of the graph are colored with the same color.
- Here is an example of a graph that can be coloured with 3 different colours. (n = 10 is the number of vertices, m = 3)



Subset sum problem

- Subset Sum Problem: Give a set T = $\{t_1, \dots, t_n\}$ of positive integers and an integer M. Find a subset S of T such that $\sum_{x \in S} x = M$

- Problem of today: Let T = {4,7,6,3,1} and M = 10. Find a subset S of T such that $\sum_{x \in S} x = 10$