**Details Regarding the idea:**

**INTRODUCTION:**

The Game should be designed to play in single player mode. The aim is to make the students realize how computers work when subjected to scheduling problems that we optimize using Grpah Coloring Algorithm.

**GRAPH COLORING ALGORITHM:**

A graph coloring problem simply means that we have a graph with different vertexes. We have to color the vertexes of the graph in such a way that no two adjacent vertexes should have same color. The problem statement then goes ahead and defines itself in multiple ways, one of which can be to find the minimum number of ways required to do this entire task.  
 The main utilization of this algorithm is when we have to schedule our tasks against many constraints which basically act as the vertexes of algorithm.  
 Currently a minimum solution is not available but a greedy approach can promise to produce most efficient solution.

**General Life Time Of Game:**

A simple graph will be showed on the screen. The vertices of the graph will have bulbs. A range of colors will be provided for the player and the task will be to light each bulb. The constraint is only that no two adjacent bulbs should be of same color. A user will go on playing the game until the time he reaches an impasse. An impasse is defined as a position where you cannot light two bulbs without one of them being of same color. The user has a freedom of lightening any bulb at any point of time during the game life span of the game. An option to Show Answer will be provided all the times to the player in case player wants to quit and know the answer of the puzzle.  
A solved solution would look like this 