8. Conclusion and future direction :-

Graphic Integer Sequence is a novel idea that puts many existing intractable problems under a head. It can dilute the complexity of some landmark graph algorithms in a different outlook. Integer sequence breaks the deadlock of combinatorial algorithms with some constraints. The conclusion is that we have tried to solve combinatorial algorithms in some way that reduces time and space complexity in most of the applications.

In real life, the problems may be of infinite dimensions. Design of ingenious information structure, for minimizing complexity and redundancy of the problem space are versatile. This is unique in the sense given an arbitrary ’n’ node graph the problem which becomes countable infinite and in some cases it is uncountable infinite. We have chosen philosophy of Marvin Minsky to take the problem as finite. Which obviously when extended reaches to countable infinite status.

Problems which can be mapped as graphs are normally simple in nature but we remember the adage “Simple things are mighty things”. What we mean that normally for example it is a practice to bring undue mathematics to make things complex but although the graph algorithms are of exponential complexity for large dimension we take it otherwise. Our approach is to make or present simple graph algorithms here, which, when stated in complex way become complex.

The numbers of combinatorial problems are enormous and art of designing such algorithms are especially important and appealing because dealing with combinatorial algorithm is a like playing games or solving puzzles. We are addicted to it. [Don’t confuse it with the allurement of lady nicotine.] A good algorithm for combinatorial problems can have a costly payoff has led to terrific advances in the state of the art (Denning, 1989).
According to “Floyd’s lemma” (Knuth, 2009) the dramatically change of complexity of so called intractable problems (Garry et al., 1999) now moving to tractable due to the improvement of the algorithms rather than to improvement of hardware. Representation greatly influences the efficiency of graph algorithms. Linearity can only be achieved through appropriate storage of adjacency information.

**Future scope:-**

We observed that GInS is another graph representation that with labels uniquely represents and enormous area of applications. However the thesis gives positive side of some applications specific combinatorial algorithms. To explore other so called unsolvable problems are not yet cultivated.

We have dealt with one of the conjectures and in future it may help us to convert this and other conjectures to theorem (Like Four Color Theorem).

To conclude, this is a sign of glorious uncertain future that may usher in other novel information structures those are more efficient and cost effective.