Quiz 1 - Solution
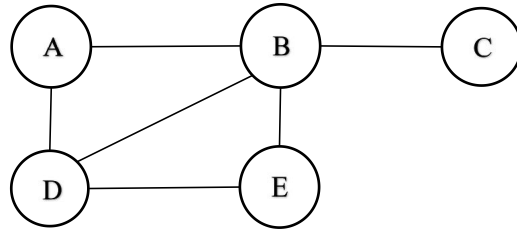
Name:_____   Roll No:_____

(20 Points)

Question No. 1   (10 Points)
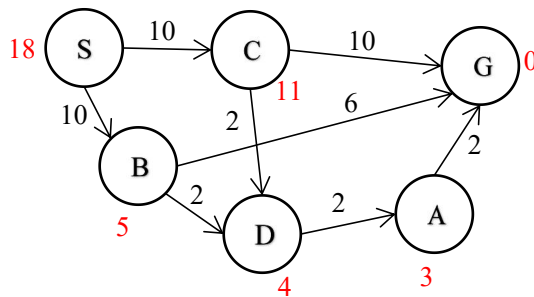
Consider above constraint graph for Map Coloring Problem with three colors (Red, Green and Blue). Run Backtracking Search with Forward Checking. (Tie breaking order is first red then green then blue).

	A	B	C	D	E
1	R, G, B	R, G, B	R, G, B	R, G, B	R, G, B
2	R	G, B	R, G, B	G, B	R, G, B
3	R	G	R, B	B	R, B
4	R	G	R	B	R, B
5	R	G	R	B	R, B
6	R	G	R	B	R

Question No. 2   (10 Points)

In following state graph (S is start state and G is goal state), are all the heuristics admissible? What path will A* find?

Path Found By A*	S -> B -> G

Admissibility

State	Heuristic Value	Actual Cost	Remarks
A	3	2	Not Admissible
B	5	6	Admissible
C	11	10	Not Admissible
D	4	4	Admissible
S	18	16	Not Admissible