

Spot

- 8. What is the definition of the prefix function that is used by the Knuth/Morris/Pratt algorithm?
- 9. Show the Knuth/Morris/Pratt prefix function for pattern aabaabcbab.
- 10. How does the KMP string matching algorithm work? Write all the steps for the given example.
pattern = "def"
string = "abcdefgh"

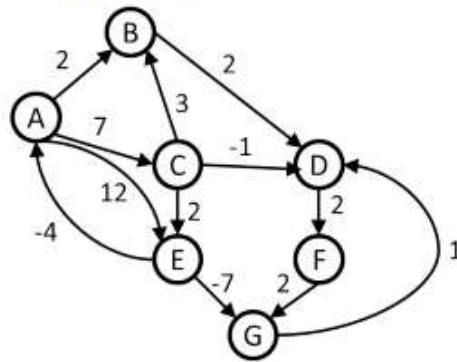
SPOT

- 1. Solve the following instance of knapsack using LCBB for knapsack capacity $M = 15$.

i	P_i	W_i
1	10	2
2	10	4
3	12	6
4	18	9

2.

- 2. Consider the following directed, weighted graph:



- (a) Even though the graph has negative weight edges, step through Dijkstra's algorithm to calculate *supposedly* shortest paths from A to every other vertex. Show your steps in the table below. Cross out old values and write in new ones, from left to right within each cell, as the algorithm proceeds. Also list the vertices in the order which you marked them known.