


National University of Computer and Emerging Sciences, Lahore Campus

	Course:	Design and Analysis of Algorithms	Course Code:	CS302
	Program:	BS(Computer Science)	Semester:	Spring 2018
	Duration:	10 Minutes	Total Marks:	10
	Paper Date:	8-May-18	Weight	3
	Section:	C	Page(s):	1
	Exam:	Quiz 6	Roll No:	
			Section:	

Given a weighted, directed graph $G(V, E)$ with no negative-weight cycles, let m be the maximum number of edges in the shortest path from source s to v for all vertices v in V . (Here, the shortest path is by weight, not the number of edges.) Suggest a simple change to the Bellman-Ford algorithm that allows it to terminate in $m + 1$ passes i.e its time complexity should be $O(mV)$, even if m is not known in advance.