Dijkstra's Algorithm - Adjacency Matrix Version

		adjacency matrix (represents the graph) The Start Node is node #1																			
	(to nodes)																				
(from nodes)	1	2	3	4	5																
1	.	50	30	100	10																
2	.	.	.	.	.																
3	.	5	.	.	.																
4	.	20	50	.	.																
5	.	.	.	10	.																
					BackPoint Array						Dist Array										
	STEP	vertex	S		1	2	3	4	5		1	2	3	4	5						
	Init	.	{1}		X	1	1	1	1		X	50	30	100	**10**						
	1	5	{1,5}		X	1	1	5	1		X	50	30	**20**	X						
	2	4	{1,4,5}		X	4	1	5	1		X	40	**30**	X	X						
	3	3	{1,3,4,5}		X	3	1	5	1		X	**35**	X	X	X						
	4	2	{1,2,3,4,5}																		

In step #1 we choose vertex 5 because Dist[5]=10 is minimal. Dist[4] then changes from 100 to 20 because path 1->5->4 is shorter than 1->4. BackPoint[4] changes to 5 to indicate the new preferred path, which goes to vertex 5 just prior to ending at vertex 4.

In step #2, we choose vertex 4 because Dist[4]=20 is now minimal. Dist[2] changes to 40 because 1->5->4->2 is shorter than 1->2. BackPoint[2] changes to 4 to indicate the new preferred path to vertex 2.

in step #3 we choose vertex 3 because Dist[3]=30 is now minimal. Dist[2] changes to35 because 1->3->2 is shorter than 1->5->4->2. BackPoint[2] changes accordingly to 3.