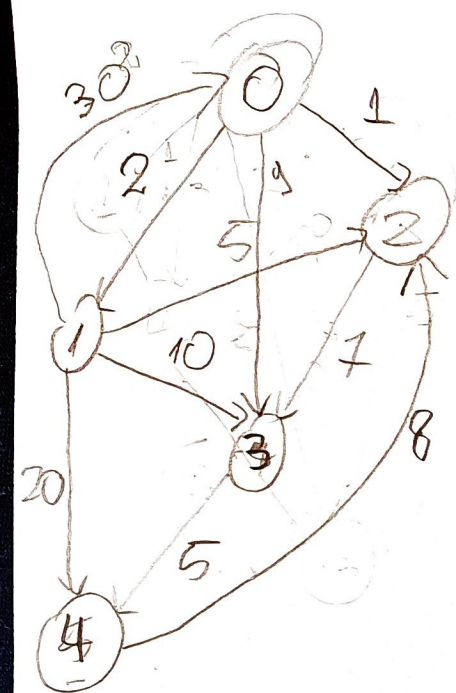


LAB 3-PATH EXISTS

Dijkstra applied backwards



dict_in

- 0: [1]
- 1: [0]
- 2: [0, 1, 4]
- 3: [0, 1, 2]
- 4: [1, 3]

dict_out

- 0: [1, 3, 2]
- 1: [2, 3, 4]
- 2: [3]
- 3: [4]
- 4: [2]

s=0, t=4	x	y	dist: dictionary	PQ: priority-queue	next: dictionary
init			<div>4 [] [0]</div>	$\{(4, 0)\}$	
iter 1 1. 1. 1. 2.	4 / ,	1 3	<div>1 4 [20] [0]</div> <div>1 3 4 [20] [5] [6]</div>	$\{ \}$ $\{(1, 20)\}$ $\{ \leftarrow (3, 5), (1, 20) \}$	<div>1 4 [4] [] []</div> <div>1 3 4 [4] [] [4]</div>
iter 2 2. 1 2. 2.	3	0 2	<div>0 1 3 4 [14] [20] [] [5] [0]</div> <div>0 1 2 3 4 [14] [20] [12] [5] [0]</div>	$\{ \leftarrow (1, 20) \}$ $\{ \leftarrow (0, 14), (1, 20) \}$ $\{ \leftarrow (2, 12), (0, 14), (1, 20) \}$	<div>0 1 3 4 [3] [4] [] [4] []</div> <div>0 1 2 3 4 [3] [4] [3] [4] []</div>
iter 3 3. 1 3. 2 3. 3	2	0 1 4	<div>0 1 2 3 4 [13] [20] [12] [5] [0]</div>	$\{ \leftarrow (0, 14), (1, 20) \}$ $\{ \leftarrow (0, 13), (0, 14), (1, 20) \}$	<div>0 1 2 3 4 [3] [4] [3] [4] []</div> <div>0 1 2 3 4 [2] [4] [3] [4] []</div>
at 4	0 → break		The minimum cost walk is: 0 ¹ → 2 ⁷ → 3 ⁵ → 4 Cost: 13		