

$$\text{opt}(q_0, q_1, q_2, q_3, q_4, q_5, m) \rightarrow \text{opt}(2, 4, 9, 11, 17, 20, 3)$$

$$\text{cost}(q_0) + \text{opt}(q_1, q_2, q_3, q_4, q_5, m-1) \rightarrow \text{cost}(2) + \text{opt}(4, 9, 11, 17, 20, 2) = 0 + 10 = 10 \leftarrow$$

$$\text{cost}(q_1) + \text{opt}(q_2, q_3, q_4, q_5, m-1) \rightarrow \text{cost}(4) + \text{opt}(9, 11, 17, 20, 1) = 0 + 17 = 17$$

$$\hookrightarrow \text{cost}(q_2, q_3, q_4, q_5) \rightarrow \text{cost}(9, 11, 17, 20) = 17$$

$$\text{cost}(q_1, q_2) + \text{opt}(q_3, q_4, q_5, m-1) \rightarrow \text{cost}(4, 9) + \text{opt}(11, 17, 20, 1) = 5 + 9 = 14$$

min

$$\hookrightarrow \text{cost}(q_3, q_4, q_5) \rightarrow \text{cost}(11, 17, 20) = 9$$

$$\text{cost}(q_1, q_2, q_3) + \text{opt}(q_4, q_5, m-1) \rightarrow \text{cost}(4, 9, 11) + \text{opt}(17, 20, 1) = 7 + 3 = \textcircled{10}$$

$$\hookrightarrow \text{cost}(q_4, q_5) \rightarrow \text{cost}(17, 20) = 3$$

$$\text{cost}(q_1, q_2, q_3, q_4) + \text{opt}(q_5, m-1) \rightarrow \text{cost}(4, 9, 11, 17) + \text{opt}(20, 1) = 14 + 0 = 14$$

$$\hookrightarrow \text{cost}(q_5) \rightarrow \text{cost}(20) = 0$$

$$\text{cost}(q_0, q_1) + \text{opt}(q_2, q_3, q_4, q_5, m-1) \rightarrow \text{cost}(2, 4) + \text{opt}(9, 11, 17, 20, 2) = 2 + 5 = \textcircled{7} \checkmark$$

$$\text{cost}(q_2) + \text{opt}(q_3, q_4, q_5, m-1) \rightarrow \text{cost}(9) + \text{opt}(11, 17, 20, 1) = 0 + 9 = 9$$

$$\hookrightarrow \text{cost}(q_3, q_4, q_5) \rightarrow \text{cost}(11, 17, 20) = 9$$

min

min

$$\text{cost}(q_2, q_3) + \text{opt}(q_4, q_5, m-1) \rightarrow \text{cost}(9, 11) + \text{opt}(17, 20, 1) = 2 + 3 = \textcircled{5} \checkmark$$

$$\hookrightarrow \text{cost}(q_4, q_5) \rightarrow \text{cost}(17, 20) = 3$$

$$\text{cost}(q_2, q_3, q_4) + \text{opt}(q_5, m-1) \rightarrow \text{cost}(9, 11, 17) + \text{opt}(20, 1) = 8 + 0 = 8$$

$$\hookrightarrow \text{cost}(q_5) \rightarrow \text{cost}(20) = 0$$

$$\text{cost}(q_0, q_1, q_2) + \text{opt}(q_3, q_4, q_5, m-1) \rightarrow \text{cost}(2, 4, 9) + \text{opt}(11, 17, 20, 2) = 7 + 3 = 10 \leftarrow$$

$$\text{cost}(q_3) + \text{opt}(q_4, q_5, m-1) \rightarrow \text{cost}(11) + \text{opt}(17, 20, 1) = 0 + 3 = \textcircled{3}$$

min

$$\hookrightarrow \text{cost}(q_4, q_5) \rightarrow \text{cost}(17, 20) = 3$$

$$\text{cost}(q_3, q_4) + \text{opt}(q_5, m-1) \rightarrow \text{cost}(17) + \text{opt}(20, 1) = 5 + 0 = 5$$

$$\hookrightarrow \text{cost}(q_5) \rightarrow \text{cost}(20) = 0$$

$$\text{cost}(q_0, q_1, q_2, q_3) + \text{opt}(q_4, q_5, m-1) \rightarrow \text{cost}(2, 4, 9, 11) + \text{opt}(17, 20, 2) = 14 + 0 = 14 \leftarrow$$

$$\text{cost}(q_4) + \text{opt}(q_5, m-1) \rightarrow \text{cost}(17) + \text{opt}(20, 1) = 0 + 0 = \textcircled{0}$$

$$\hookrightarrow \text{cost}(q_5) \rightarrow \text{cost}(20) = 0$$

$$\text{cost}(q_0, q_1, q_2, q_3, q_4) + \text{opt}(q_5, m-1) \rightarrow \text{cost}(2, 4, 9, 11, 17) + \text{opt}(20, 2) = 22 + 0 = 22 \leftarrow$$

$$\text{cost}(q_5) \rightarrow \text{cost}(20) = \textcircled{0}$$