

Inbound:

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

Outbound:

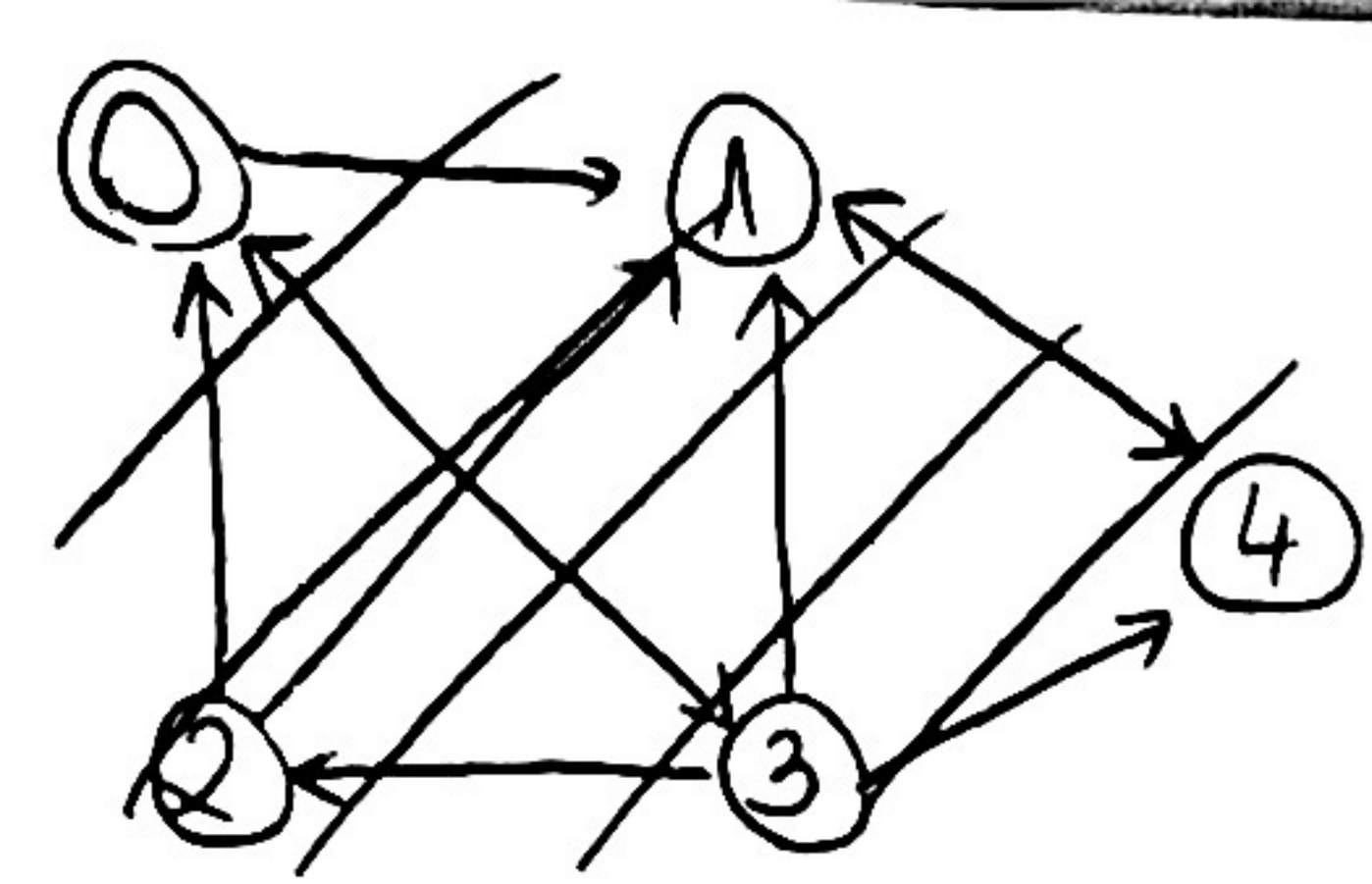
0	- [1, 2]
1	- [2, 0]
2	- [4, 1]
3	- [0, 2, 4]
4	- [0 , 3]

$S=1, k=3$

FORWARD

	Queue	dist	visited	previous																														
initialization	$\leftarrow [1] \leftarrow$	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>∞</td><td>0</td><td>∞</td><td>∞</td><td>∞</td></tr> </table>	0	1	2	3	4	∞	0	∞	∞	∞	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>F</td><td>T</td><td>F</td><td>F</td><td>F</td></tr> </table>	0	1	2	3	4	F	T	F	F	F	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>	0	1	2	3	4					
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iteration 3(1+3)	$\leftarrow [4] \leftarrow$	- -	- -	- -																														
iteration 4	$\leftarrow [3] \leftarrow$	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>1</td><td>0</td><td>1</td><td>3</td><td>2</td></tr> </table>	0	1	2	3	4	1	0	1	3	2	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td></tr> </table>	0	1	2	3	4	T	T	T	T	T	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>1</td><td></td><td>1</td><td>4</td><td>2</td></tr> </table>	0	1	2	3	4	1		1	4	2
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iteration 5(1+2+3)	empty	- -	- -	- -																														

path = [1, 2, 4, 3], length = 3



Inbound:

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

Outbound:

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

S=1, k=3

BACKWARD

	Queue	dist	visited	next																														
initialization	<u>← 3 ←</u>	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>∞</td><td>∞</td><td>∞</td><td>0</td><td>∞</td></tr> </table>	0	1	2	3	4	∞	∞	∞	0	∞	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>F</td><td>F</td><td>F</td><td>T</td><td>F</td></tr> </table>	0	1	2	3	4	F	F	F	T	F											
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iteration 1.1	<u>← 4 ←</u>	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>∞</td><td>∞</td><td>∞</td><td>0</td><td>1</td></tr> </table>	0	1	2	3	4	∞	∞	∞	0	1	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>F</td><td>F</td><td>F</td><td>T</td><td>T</td></tr> </table>	0	1	2	3	4	F	F	F	T	T	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td></td><td></td><td></td><td></td><td>3</td></tr> </table>	0	1	2	3	4					3
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iteration 3.1	<u>← 1 ←</u>	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>∞</td><td>3</td><td>2</td><td>0</td><td>1</td></tr> </table>	0	1	2	3	4	∞	3	2	0	1	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>F</td><td>T</td><td>T</td><td>T</td><td>T</td></tr> </table>	0	1	2	3	4	F	T	T	T	T	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td></td><td>2</td><td>4</td><td></td><td>3</td></tr> </table>	0	1	2	3	4		2	4		3
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iteration 3.2	<u>← 1 0 ←</u>	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>3</td><td>3</td><td>2</td><td>0</td><td>1</td></tr> </table>	0	1	2	3	4	3	3	2	0	1	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>T</td><td>T</td><td>T</td><td>T</td><td>T</td></tr> </table>	0	1	2	3	4	T	T	T	T	T	<table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>2</td><td>2</td><td>4</td><td></td><td>3</td></tr> </table>	0	1	2	3	4	2	2	4		3
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iteration 4	<u>← 1 ←</u>	-11-	-11-	-11-																														
iteration 5	<u>← 0 ←</u>	-11-	-11-	-11-																														
iteration 6	empty	-11-	-11-	-11-																														

path = [1, 2, 4, 3], length = 3

