[13, 17] Trellis Diagram, Cost:

index 0 1 2 3 4 5 6 7 8 9 9 10 11 12 13 14 15 16 17 18 19 18 18 14 19 99 0 2 4 4 4 3 4 2 2 3 3 3 4 4 5 5 6 5 6 5 6 3 5 5 6 8 18 19 99 99 99 99 99 99 99 99 99 99 99 99																					
state 1 999 0 2 6 1 4 2 3 3 3 4 4 5 6 5 3 5 6 state 2 999 999 0 4 1 2 4 2 4 4 4 4 5 5 3 5 6 5 5 6 state 3 999 999 999 1 4 1 3 3 2 4 4 5 5 3 5 5 6 5 6 5 5 6 6	index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
state 2 999 999 0 4 1 2 4 2 4 4 4 4 5 5 3 5 6 5 5 6 3 6 state 3 999 999 999 999 1 4 1 3 3 2 4 4 4 5 5 4 5 6 5 6 5 6 5 5 3 5 6 5 6 5 5 4 5 5 4 5 6 5 6 5 5 6 5 6 5 5 6 5 6 6 5 5 6 6 5 6 6 5 6 6 5 6 6 5 6 6 5 6 6 5 6 6 7 7 7 6 7 7 7 7 7 <td>state 0</td> <td>0</td> <td>2</td> <td>4</td> <td>4</td> <td>3</td> <td>4</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> <td>5</td> <td>6</td> <td>5</td> <td>6</td> <td>3</td> <td>5</td> <td>5</td> <td>6</td>	state 0	0	2	4	4	3	4	2	2	3	3	4	4	5	6	5	6	3	5	5	6
state 3 999 999 2 2 3 2 4 2 4 4 4 4 2 5 5 3 5 5 6 3 6 5 5 5 5 4 5 5 4 5 3 6 5 6 5 5 5 4 5 3 6 5 6 5 5 5 4 5 3 6 5 6 5 6 5 5 5 4 5 3 6 5 6 6 5 5 4 2 4 5 5 4 5 6 5 6 6 6 6 6 6 6 6 7 6 6 7 7 7 6 7 7 7 6 7 7 7 7 7 7 7 7 7 7 7 <td< td=""><td>state 1</td><td>999</td><td>0</td><td>2</td><td>6</td><td>1</td><td>4</td><td>2</td><td>3</td><td>3</td><td>3</td><td>4</td><td>4</td><td>5</td><td>6</td><td>5</td><td>6</td><td>5</td><td>3</td><td>5</td><td>6</td></td<>	state 1	999	0	2	6	1	4	2	3	3	3	4	4	5	6	5	6	5	3	5	6
state 4 999 999 1 4 1 3 3 2 4 4 5 5 4 5 3 6 5 6 6 state 5 999 999 99 1 4 3 2 3 4 4 2 5 4 2 4 5 6 5 6 6 state 6 999 999 3 3 3 2 4 4 2 4 5 5 4 5 6 5 state 7 999 999 3 3 3 3 4 2 4 4 5 5 3 4 5 6 6 5 6 5 3 4 7 7 7 8 8 9 7 8 3 9 8 9 7 8 3 9 8 9 7 5 7	state 2	999	999	0	4	1	2	4	2	4	4	4	4	5	5	3	5	6	5	5	6
state 5 999 999 1 4 3 2 3 4 4 2 5 4 2 4 5 6 6 6 6 5 6 6 5 6 6 5 5 4 5 2 4 5 5 4 5 6 5 5 6 5 5 6 5 5 6 5 5 6 5 5 6 5 6 5 5 3 4 5 6 6 5 6 5 6 5 6 3 <td< td=""><td>state 3</td><td>999</td><td>999</td><td>2</td><td>2</td><td>3</td><td>2</td><td>4</td><td>2</td><td>4</td><td>4</td><td>4</td><td>2</td><td>5</td><td>5</td><td>3</td><td>5</td><td>5</td><td>6</td><td>3</td><td>6</td></td<>	state 3	999	999	2	2	3	2	4	2	4	4	4	2	5	5	3	5	5	6	3	6
state 6 999 999 999 999 3 3 3 2 4 4 2 4 5 2 4 5 5 4 5 6 5 state 7 999 999 999 3 3 3 3 4 2 4 4 5 5 3 4 5 6 3 index 20 21 22 23 24 25 26 27 7 7 7 6 7 7 7 7 8 8 8 9 7 8 9 7 8 9 5 7 9 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 5 7 9 8 7 9 8 7 9 8 7 9 8 7 9 9 8 7 9 9 8 7 9 9 8 8 7	state 4	999	999	999	1	4	1	3	3	2	4	4	5	5	4	5	3	6	5	6	5
state 7 999 999 999 3 3 3 3 4 2 4 4 5 4 5 5 3 4 5 6 3 sindex 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 state 0 6 7 7 6 6 7 7 7 8 9 7 8 9 5 7 9 state 1 5 7 7 4 6 7 7 8 8 7 7 9 8 7 9 8 7 9 8 7 9 8 7 9 9 9 8 9 7 5 7 9 8 7 9 9 8 8 7 9 9 <t< td=""><td>state 5</td><td>999</td><td>999</td><td>999</td><td>1</td><td>4</td><td>3</td><td>2</td><td>3</td><td>4</td><td>4</td><td>2</td><td>5</td><td>4</td><td>2</td><td>4</td><td>5</td><td>6</td><td>5</td><td>6</td><td>6</td></t<>	state 5	999	999	999	1	4	3	2	3	4	4	2	5	4	2	4	5	6	5	6	6
index 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 state 0 6 7 7 6 6 7 6 7 6 7 5 8 8 9 9 8 9 7 5 7 state 1 5 7 7 4 6 7 7 7 8 8 7 7 7 9 8 7 9 8 9 7 5 7 state 2 6 6 5 6 6 7 7 7 8 8 7 7 7 9 8 7 9 8 9 7 5 state 3 6 6 5 7 4 7 7 8 8 7 7 7 5 9 8 5 9 8 7 9 7 state 4 6 6 4 6 6 7 6 7 5 8 5 8 8 8 7 7 8 9 5 9 9 8 state 5 6 4 6 6 7 7 7 7 7 7 7 8 8 7 7	state 6	999	999	999	3	3	3	2	4	4	2	4	5	2	4	5	5	4	5	6	5
state 0 6 7 7 6 6 7 6 7 7 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 9 8 9 7 5 7 9 8 9 7 5 7 7 7 7 7 7 7 7 7 7 7 7 9 8 7 9 8 7 9 8 7 9 8 7 9 8 7 9 8 7 9 9 8 7 9 9 8 7 9 9 8 7 9 9 8 7 9 9 8 7 9 9 9 8 8 7 7 7 7 7 7 7 7 7 7 7 7 8 8 7 </td <td>state 7</td> <td>999</td> <td>999</td> <td>999</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>2</td> <td>4</td> <td>4</td> <td>5</td> <td>4</td> <td>5</td> <td>5</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>3</td>	state 7	999	999	999	3	3	3	3	4	2	4	4	5	4	5	5	3	4	5	6	3
state 0 6 7 7 6 6 7 6 7 7 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 9 8 9 7 5 7 9 8 9 7 5 7 7 7 7 7 7 7 7 7 7 7 7 9 8 7 9 8 7 9 8 7 9 8 7 9 8 7 9 8 7 9 9 8 7 9 9 8 7 9 9 8 7 9 9 8 7 9 9 8 7 9 9 9 8 8 7 7 7 7 7 7 7 7 7 7 7 7 8 8 7 </td <td></td>																					
state 1 5 7 7 4 6 7 7 7 6 7 5 8 8 9 9 8 9 7 5 7 state 2 6 6 5 6 6 7 7 8 8 7 7 7 9 8 7 9 8 7 9 8 7 9 8 7 9 8 7 9 9 8 7 9 9 7 5 5 8 8 7 7 9 8 7 9 9 7 9 9 7 9 9 9 9 9 9 9 9 9 9 8 8 7 7 9 9 8 8 9 9 9 8 8 9 9 9 8 8 9 9 9 9 9 9 <	index	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
state 2 6 6 5 6 6 7 7 8 8 7 7 7 9 8 7 9 8 7 9 8 7 9 7 5 5 8 7 9 8 7 9 7 5 9 8 7 9 7 9 9 7 9 7 9 9 7 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 7 9 9 9 9 9 9 9 8 8 7 7 9 9 9 9 8 8 9 7 7 8 8 7 7 9 9 9 8 8 9 9 9 8 8 9 9 9 7 8 8 9 9 9 </td <td>state 0</td> <td>6</td> <td>7</td> <td>7</td> <td>6</td> <td>6</td> <td>7</td> <td>6</td> <td>7</td> <td>6</td> <td>7</td> <td>7</td> <td>7</td> <td>8</td> <td>9</td> <td>7</td> <td>8</td> <td>9</td> <td>5</td> <td>7</td> <td>9</td>	state 0	6	7	7	6	6	7	6	7	6	7	7	7	8	9	7	8	9	5	7	9
state 3 6 6 5 7 4 7 7 8 8 7 7 5 9 8 5 9 8 7 9 9 8 7 9 9 9 9 9 8 5 9 8 7 9 9 9 9 8 8 8 7 8 9 5 9 9 9 8 8 8 7 7 9 9 9 8 8 9 7 7 9 9 9 8 8 9 9 9 8 8 9 9 9 8 8 9 9 9 8 8 9 9 9 7 8 8 7 9 9 9 8 8 9 9 7 8 8 9 10 7 7 7 7 7 9 9 7<	state 1	5	7	7	4	6	7	7	7	6	7	5	8	8	9	9	8	9	7	5	7
state 4 6 6 4 6 7 6 7 5 8 5 8 8 8 7 8 9 5 9 9 8 state 5 6 4 6 6 7 7 7 7 7 8 8 7 5 8 7 7 9 9 9 8 8 9 7 7 9 9 9 8 8 9 7 7 9 9 9 8 8 9 9 9 8 8 9 9 9 9 8 8 9 9 9 7 8 8 9	state 2	6	6	5	6	6	7	7	8	8	7	7	7	9	8	7	9	8	9	7	5
state 5 6 4 6 6 7 7 7 7 7 8 8 7 5 8 7 7 9 9 8 8 9 9 9 9 8 8 9 9 9 9 8 8 9 9 9 7 7 8 8 7 7 9 9 9 8 8 9 9 9 7 7 8 8 9 7 7 8 8 9 9 9 7 8 8 9 9 9 7 8 8 9 9 9 7 8 8 9 9 7 8 8 9 </td <td>state 3</td> <td>6</td> <td>6</td> <td>5</td> <td>7</td> <td>4</td> <td>7</td> <td>7</td> <td>8</td> <td>8</td> <td>7</td> <td>7</td> <td>5</td> <td>9</td> <td>8</td> <td>5</td> <td>9</td> <td>8</td> <td>7</td> <td>9</td> <td>7</td>	state 3	6	6	5	7	4	7	7	8	8	7	7	5	9	8	5	9	8	7	9	7
state 6 4 4 6 6 7 6 5 7 5 8 8 8 5 7 9 5 9 8 8 9 state 7 4 6 6 6 7 4 5 5 7 7 8 8 7 9 9 7 7 8 8 9 7 7 8 8 9 7 7 8 8 9 9 9 7 7 8 8 9 7 8 8 9 9 9 9 9 9 9 9 8 8 7 7 9 9 7 8 8 9 10 7 7 7 7 9 9 7 10 9 999	state 4	6	6	4	6	7	6	7	5	8	5	8	8	8	7	8	9	5	9	9	8
state 7 4 6 6 7 4 5 5 7 7 8 8 7 9 9 7 7 8 8 9 index 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 state 0 9 9 9 8 8 7 8 9 7 8 8 9 10 7 7 state 1 9 7 9 8 8 7 7 9 9 7 10 9 999 <td< td=""><td>state 5</td><td>6</td><td>4</td><td>6</td><td>6</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>8</td><td>8</td><td>7</td><td>5</td><td>8</td><td>7</td><td>7</td><td>9</td><td>9</td><td>8</td></td<>	state 5	6	4	6	6	7	7	7	7	7	7	8	8	7	5	8	7	7	9	9	8
index	state 6	4	4	6	6	7	6	5	7	5	8	8	8	5	7	9	5	9	8	8	9
state 0 9 9 9 8 8 7 8 9 7 8 8 9 10 7 7 state 1 9 7 9 8 8 7 7 9 9 7 10 9 999 999 999 state 2 8 5 8 6 9 9 7 8 9 9 10 10 999 999 999 state 3 8 7 8 6 9 9 9 8 7 8 7 10 999 <td>state 7</td> <td>4</td> <td>6</td> <td>6</td> <td>6</td> <td>7</td> <td>4</td> <td>5</td> <td>5</td> <td>7</td> <td>7</td> <td>8</td> <td>8</td> <td>7</td> <td>9</td> <td>9</td> <td>7</td> <td>7</td> <td>8</td> <td>8</td> <td>9</td>	state 7	4	6	6	6	7	4	5	5	7	7	8	8	7	9	9	7	7	8	8	9
state 0 9 9 9 8 8 7 8 9 7 8 8 9 10 7 7 state 1 9 7 9 8 8 7 7 9 9 7 10 9 999 999 999 state 2 8 5 8 6 9 9 7 8 9 9 10 10 999 999 999 state 3 8 7 8 6 9 9 9 8 7 8 7 10 999 <td></td>																					
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state 2 8 5 8 6 9 9 7 8 9 9 9 10 10 999 999 state 3 8 7 8 6 9 9 9 8 7 8 7 10 999 999 999 state 4 7 8 7 7 6 8 9 7 8 10 9 9 7 11 999 state 5 5 8 5 8 8 9 9 7 8 10 9 9 999 </td <td>state 0</td> <td>(</td> <td>9</td> <td>9</td> <td>9</td> <td>8</td> <td>3</td> <td>8</td> <td>7</td> <td>8</td> <td>3</td> <td>9</td> <td>7</td> <td></td> <td>8</td> <td>8</td> <td>9</td> <td>1(</td> <td>)</td> <td>7</td> <td>7</td>	state 0	(9	9	9	8	3	8	7	8	3	9	7		8	8	9	1()	7	7
state 3 8 7 8 6 9 9 9 8 7 8 7 10 999 999 999 state 4 7 8 7 7 6 8 9 7 8 10 9 9 7 11 999 state 5 5 8 5 8 8 9 9 7 8 10 9 9 999 999 999 state 6 7 9 7 8 8 8 7 7 9 8 9 7 10 999 999	state 1		9	7	9	8	3	8	7	-	7	9	9	,	7	10	9	999	9	99	999
state 4 7 8 7 7 6 8 9 7 8 10 9 9 7 11 999 state 5 5 8 5 8 8 9 9 7 8 10 9 9 999 999 999 state 6 7 9 7 8 8 8 7 7 9 8 9 7 10 999 999	state 2		8	5	8	6	ó	9	9	-	7	8	9		9	9	10	10) 9	99	999
state 5 5 8 5 8 8 9 9 7 8 10 9 9 999 999 999 state 6 7 9 7 8 8 8 7 7 9 8 9 7 10 999 999	state 3	,	8	7	8	6	5	9	9	Ç)	8	7	;	8	7	10	999	9	99	999
state 6 7 9 7 8 8 8 7 7 9 8 9 7 10 999 999	state 4	,	7	8	7	7	7	6	8	Ç)	7	8	1	0	9	9	<u></u>	7	11	999
	state 5		5	8	5	8	3	8	9	Ç)	7	8	1	0	9	9	999	9	99	999
state 7 9 9 9 9 6 6 7 9 9 8 9 9 999 999 999	state 6	,	7	9	7	8	3	8	8		7	7	9		8	9	7	1() 9	99	999
	state 7		9	9	9	9)	6	6		7	9	9		8	9	9	999	9	99	999

Previous State:

index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
state 0	0	0	0	0	4	0	0	4	0	4	0	0	0	0	0	0	4	4	0	4
state 1	-1	0	0	0	4	0	4	0	4	0	0	0	4	0	4	0	0	0	0	4
state 2	-1	-1	1	1	5	1	1	1	5	1	1	1	5	1	5	1	5	1	1	5
state 3	-1	-1	1	1	5	5	1	5	1	5	1	1	1	1	5	1	5	5	1	5
state 4	-1	-1	-1	2	2	2	6	2	6	6	6	2	6	2	2	2	6	2	6	6
state 5	-1	-1	-1	2	2	2	6	2	6	6	2	6	6	2	2	2	6	2	6	2
state 6	-1	-1	-1	3	7	3	7	3	7	3	3	7	7	3	3	3	3	3	7	3
state 7	-1	-1	-1	3	7	3	7	3	7	3	7	3	7	7	3	7	3	3	3	7
index	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
state 0	4	0	4	0	4	0	0	4	4	0	4	0	4	0	4	4	4	0	0	0
state 1	4	0	0	0	4	0	0	4	4	0	0	4	0	0	0	4	4	0	0	0
state 2	1	1	1	1	5	1	5	5	1	1	1	5	1	1	1	1	1	5	1	1
state 3	5	5	1	1	1	1	5	5	5	5	1	1	5	5	1	1	5	1	1	1
state 4	2	6	2	2	2	6	2	6	2	6	2	2	2	2	6	2	6	2	6	6
state 5	2	6	2	2	2	2	2	2	2	6	2	2	2	2	6	2	6	2	2	6
state 6	3	3	3	7	7	3	3	3	3	3	3	3	3	3	7	7	7	3	3	3
state 7	3	3	3	3	7	7	3	7	3	3	3	3	3	3	7	3	7	3	7	3
index	4() 4	41	42	43	3	44	45	40	5	47	48	4	9	50	51	52	2	53	54
state 0	()	0	0	۷	1	0	4	(О	0	0	•	4	4	0	(O	0	0
state 1	()	0	0	()	0	4	(О	0	0	•	4	4	0	(O	0	0
state 2	-	5	5	1	1	L	1	1		1	1	1		1	1	1		1	0	0
state 3	-	1	1	5]	L	1	5		1	1	1		1	5	1	(O	0	0
state 4	2	2	6	6	2	2	2	2	(5	6	2		2	2	6	(5	6	0
state 5	4	2	6	6	2	2	2	2		5	6	2		2	2	6	(О	0	0
state 6		3	7	3	3	3	7	7		3	3	7		3	7	3		3	0	0
state 7	- /	3	7	3	3	3	3	7		3	3	7		3	7	3	(О	0	0

State Transition Map:

0	1	99999	99999	99999	99999	99999	99999
99999	99999	0	1	99999	99999	99999	99999
99999	99999	99999	99999	0	1	99999	99999
99999	99999	99999	99999	99999	99999	0	1
0	1	99999	99999	99999	99999	99999	99999
99999	99999	0	1	99999	99999	99999	99999
99999	99999	99999	99999	0	1	99999	99999
99999	99999	99999	99999	99999	99999	0	1

Output Map:

•	•						
0	3	99999	99999	99999	99999	99999	99999
99999	99999	3	0	99999	99999	99999	99999
99999	99999	99999	99999	2	1	99999	99999
99999	99999	99999	99999	99999	99999	1	2
3	0	99999	99999	99999	99999	99999	99999
99999	99999	0	3	99999	99999	99999	99999
99999	99999	99999	99999	1	2	99999	99999
99999	99999	99999	99999	99999	99999	2	1

[25, 27, 33, 37] Trellis Diagram, Cost:

index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
_																				
state 0	0	0	3			<u> </u>	11	5	8	10	11	8	11	13	12	10	13	14	11	13
state 1	999	4	1	6			11	1	6	10	11	10	9	13	14	10	11	14	9	13
state 2	999		6	_		<u> </u>	10	6	3	7	12	7	10	10	13	13	12	13	6	10
state 3	999	999	6		7	8	8	8	3	9	12	7	10	10	13	11	12	13	10	12
state 4	999	999	999	8	8	11	9	9	8	4	7	10	9	7	12	12	15	12	13	9
state 5	999	999	999	8	6	11	9	11	8	6	9	10	9	5	12	10	15	12	13	7
state 6	999	999	999	7	1	8	10	8	9	7	12	11	8	8	11	5	12	13	14	12
state 7	999	999	999	9	5	10	10	8	11	3	10	9	10	10	11	9	12	13	12	12
state 8	999	999	999	999	10	9	1	11	10	10	7	10	11	11	8	12	13	8	15	13
state 9	999	999	999	999	10	9	5	11	10	10	5	8	9	11	10	12	13	6	13	13
state 10	999	999	999	999	11	8	8	10	13	9	8	11	4	10	9	13	12	11	14	14
state 11	999	999	999	999	9	8	6	10	13	11	8	11	8	10	5	11	12	11	14	14
state 12	999	999	999	999	8	1	9	9	8	12	9	8	9	11	10	12	5	14	13	15
state 13	999	999	999	999	10	5	9	11	10	10	9	4	9	9	10	12	9	14	13	15
state 14	999	999	999	999	11	8	8	10	11	11	4	7	10	12	11	13	12	11	14	14
state 15	999	999	999	999	11	6	8	10	9	11	6	9	10	12	13	13	10	13	14	14
l	ı	ı																		
index	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
state 0	13	13	15	16	13	16	17	17	19	19	17	18	20	22	22	22	23	23	22	24
state 1	13	13	15	16	15	14	17	17	19	19	13	20	20	22	22	22	21	19	20	24
state 2	14	14	14	17	14	17	14	18	18	18	18	17	21	21	23	23	22	22	21	23
state 3	14	12	14	17	10	17	16	18	18	20	20	13	21	23	21	21	22	22	21	21
state 4	11	13	15	16	15	14	19	17	19	19	19	20	18	22	22	24	25	21	20	22
state 5	13		15	16	15	14	19	15	19	17	19	20	20	22	22	24	25	23	22	24
state 6	14	8	12	13	14	13	18	18	18	18	18	21	17	23	23	23	22	18	21	23
state 7	14		16	15	16	11	18	18	18	18	18	21	13	23	23	23	22	18	19	23
state 8	11	13	15	12	17	16	15	17	17	13	21	22	22	20	20	20	19	19	22	22
state 9	11	13	15	10	15	16	17	17	17	17	21	20	22	20	20	20	21	19	22	22
state 10	10	14	14	13	14	17	16	18	16	18	18	21	21	21	23	23	20	20	25	21
state 11	8	16	12	13	14	17	16	16	16	16	20	21	21	23	21	21	16	18	25	23
state 12	13	15	9	14	15	16	15	17	13	19	21	20	20	18	18	18	17	21	20	22
state 13		15	11	12	15	16	15	15	15	19	19	20	22	20	20	16	17	23	20	22
state 14			14	17	16	17	14	12	18	20	20	19	23	17	15	15	20	24	21	19
state 15	14		14	15	16	17	12	16	18	20	20	21	23	13	15	19	22	24	19	19
letota ! •					111	1 /	1.7.1	1()	10	7.07	$\angle U$	ΔI	23	1.0	1.)	19	1.7.	24	19	19

index	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
state 0	23	25	27	25	24	24	27	29	31	32	33	34	35	29	30	30
state 1	25	25	27	27	26	26	25	29	31	30	33	34	999	999	999	999
state 2	24	24	26	28	25	29	26	28	32	31	32	33	36	999	999	999
state 3	24	26	26	26	25	27	26	26	30	31	32	33	999	999	999	999
state 4	23	25	21	27	28	28	31	27	31	32	33	26	35	37	999	999
state 5	23	25	23	25	28	26	31	29	29	32	33	30	999	999	999	999
state 6	22	24	24	24	27	27	28	28	26	31	32	33	34	999	999	999
state 7	24	24	24	24	25	27	28	28	30	31	32	31	999	999	999	999
state 8	23	25	25	23	26	26	29	29	29	32	33	34	27	37	36	999
state 9	23	25	25	23	28	26	29	31	29	30	31	34	999	999	999	999
state 10	24	20	24	26	27	29	28	32	30	31	26	35	34	999	999	999
state 11	24	22	22	24	27	27	28	30	30	31	30	35	999	999	999	999
state 12	23	23	25	25	24	28	29	29	29	30	33	34	35	33	999	999
state 13	19	21	25	25	26	28	29	29	31	26	33	34	999	999	999	999
state 14	20	24	24	26	27	27	28	30	30	31	32	33	32	999	999	999
state 15	22	24	24	26	25	27	28	30	30	31	32	33	999	999	999	999

Previous State:

index	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
state 0	0	0	0	0	0	0	0	8	0	0	8	8	0	0	8	8	0	0	8	0
state 1	-1	0	0	0	0	0	0	8	0	0	0	8	0	0	0	8	0	8	8	0
state 2	-1	-1	1	1	1	1	1	9	1	1	1	9	9	1	9	9	1	1	9	1
state 3	-1	-1	1	1	1	1	1	9	1	1	1	9	9	9	9	9	1	1	9	1
state 4	-1	-1	-1	2	2	2	2	10	2	2	2	10	2	10	2	10	2	10	10	2
state 5	-1	-1	-1	2	2	2	10	2	2	2	10	10	2	10	2	10	2	2	10	2
state 6	-1	-1	-1	3	3	3	3	11	3	3	3	11	3	11	3	11	3	3	3	3
state 7	-1	-1	-1	3	3	3	3	11	3	3	3	11	3	3	11	11	11	11	11	3
state 8	-1	-1	-1	-1	4	12	12	4	12	4	4	4	4	4	4	12	12	12	4	4
state 9	-1	-1	-1	-1	4	4	12	4	4	4	4	4	12	4	4	12	4	12	4	12
state 10	-1	-1	-1	-1	5	5	13	5	5	5	5	5	13	5	5	5	5	13	5	13
state 11	-1	-1	-1	-1	5	5	13	13	5	5	5	5	13	13	5	13	5	13	5	5
state 12	-1	-1	-1	-1	6	6	6	14	6	6	6	14	14	6	6	14	6	6	14	14
state 13	-1	-1	-1	-1	6	6	14	6	14	6	6	14	14	6	6	6	6	6	14	6
state 14	-1	-1	-1	-1	7	7	15	15	7	15	7	15	7	7	7	7	7	15	7	7
state 15	-1	-1	-1	-1	7	7	15	15	7	15	7	15	15	7	7	7	7	7	15	7

index	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
state 0	8	8	0	0	8	0	8	8	0	8	8	0	0	0	8	8	0	0	8	0
state 1	0	8	0	8	8	0	0	8	0	8	8	0	0	0	8	8	8	8	8	0
state 2	1	1	9	1	9	1	1	1	1	9	9	1	1	1	1	1	9	9	1	1
state 3	9	9	1	1	9	1	9	9	9	1	1	1	9	1	9	9	9	1	1	1
state 4	2	10	10	2	10	2	2	2	10	2	10	2	2	10	2	10	2	10	10	2
state 5	2	10	2	2	10	10	2	2	2	10	2	2	2	2	10	2	2	2	2	2
state 6	3	11	3	11	11	3	11	3	11	11	11	3	3	3	11	3	11	11	11	3
state 7	3	11	3	3	11	3	3	3	11	11	11	11	3	3	3	3	3	11	11	3
state 8	4	4	4	12	4	12	4	12	4	12	4	4	4	4	12	12	12	12	4	4
state 9	4	4	4	12	12	4	4	12	12	12	4	4	4	4	12	12	12	12	12	4
state 10	5	5	5	13	13	5	5	13	13	13	5	5	5	5	5	5	13	13	5	13
state 11	5	5	5	13	13	5	5	13	5	13	5	5	13	5	13	13	13	13	5	5
state 12	6	14	6	14	6	6	6	14	14	6	6	6	14	6	14	14	14	14	6	14
state 13	6	6	6	6	6	6	6	14	14	14	6	6	6	6	14	14	14	6	6	6
state 14	7	7	7	7	15	7	7	15	15	7	7	7	7	7	15	15	15	7	7	7
state 15	7	7	7	15	7	15	7	15	15	7	7	7	7	7	15	15	15	7	7	15
															•		_			
index	40) 4	-1	42	43	44	4	5	46	47	48	3 4	.9	50	51	52	5	3	54	55
state 0	8	3	0	0	8	8)	0	0	0	C)	0	8	0	8	3	8	0	0
state 1	()	0	0	0	C	١	8	0	0	C	١	8	\circ	0	0		\sim	0	0
		1	U					O	U	U	·		O	0	8	0)	0	U	
state 2	9	-	9	1	1	9	-	1	1	1	1	-	9	1	9	1	+	0	0	0
state 2 state 3	ç)		1 9	1 9)											-		0
)	9			9)	1	1	1	1		9	1	9	1)	0	0	
state 3	Ç) 1	9	9	9	9)	1	1 9	1	1	2 1	9	1	9	0)	0	0	0
state 3	10))) 1	9 1 0	9	9	9)	1 1 2	1 9 2	1 1 2	1 1 2	2 1	9 9 0	1 1 2	9 9 10	1 0 2) (0 0 2	0 0 0	0
state 3 state 4 state 5	10))) 1))	9 1 0 2	9 10 10	9 2 10	9 10 10))	1 1 2 2	1 9 2 2	1 1 2 2	1 1 2 2	2 1 2 1 3 1	9 9 0 0	1 1 2 2	9 9 10 10	1 0 2		0 0 2 0	0 0 0 0	0 0
state 3 state 4 state 5 state 6	10) 1) 1) 3 3 1	9 1 0 2 3	9 10 10 11	9 2 10 11	9 9 10 10 3		1 1 2 2 3	1 9 2 2 11	1 1 2 2 3	1 1 2 2 2 3	2 1 2 1 3 1 3 1 3 1	9 9 0 0	1 1 2 2 3	9 9 10 10 3	1 0 2 0 3		0 0 2 0 0	0 0 0 0	0 0 0
state 3 state 4 state 5 state 6 state 7	10 10 3) 1) 1) 3 3 1	9 1 0 2 3	9 10 10 11 11	9 2 10 11 11	9 9 10 10 3 11	2 1	1 1 2 2 3 3	1 9 2 2 11 3	1 1 2 2 3 3	1 1 2 2 3 3	2 1 1 3 1 3	9 9 0 0 1 3	1 2 2 3 11	9 9 10 10 3 11	1 0 2 0 3		0 0 2 0 0	0 0 0 0 0	0 0 0 0
state 3 state 4 state 5 state 6 state 7 state 8	10 10 3 3 12) 1) 1) 3 3 1 2 4	9 1 0 2 3 1 4	9 10 10 11 11 12	9 2 10 11 11 4	9 10 10 3 11 12	2 1	1 1 2 2 3 3 2	1 9 2 2 11 3 4	1 2 2 3 3 12	1 1 2 2 2 3 3 4	2 1 2 1 3 1 3 1 4 1	9 9 0 0 1 3 4	1 2 2 3 11 4	9 9 10 10 3 11 4	1 0 2 0 3 0 4		0 0 2 0 0 0 0 4	0 0 0 0 0 0	0 0 0 0 0
state 3 state 4 state 5 state 6 state 7 state 8 state 9	3 10 3 3 12)	9 1 0 2 3 1 4 4	9 10 10 11 11 12 12	9 2 10 11 11 4 4	9 9 10 10 3 11 12 4		1 1 2 2 2 3 3 3 2 2	1 9 2 2 11 3 4	1 1 2 2 3 3 12 4	1 1 2 2 3 3 4 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9 9 0 0 1 3 4 2	1 2 2 3 11 4 12	9 10 10 3 11 4 12	1 0 2 0 3 0 4		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 12	0 0 0 0 0
state 3 state 4 state 5 state 6 state 7 state 8 state 9 state 10	3 10 3 3 12 2 13)	9 1 0 2 3 1 4 4 3	9 10 10 11 11 12 12 13	9 2 10 11 11 4 4 5	9 10 10 3 11 12 4		1 1 2 2 3 3 3 2 2 5	1 9 2 2 11 3 4 12 5	1 2 2 3 3 12 4 5	11 12 22 23 33 34 44 13		9 9 0 0 1 3 4 2	1 2 2 3 111 4 12 13	9 10 10 3 11 4 12 5	1 0 2 0 3 0 4 0 5		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 12 0	0 0 0 0 0 0 0
state 3 state 4 state 5 state 6 state 7 state 8 state 9 state 10 state 11	99 100 100 33 33 122 22 133 133)	9 1 0 2 3 1 4 4 4 3 3	9 10 10 11 11 12 12 13 13	9 2 10 11 11 4 4 5 5	99 99 100 110 33 111 122 4 5 5		1 1 2 2 2 3 3 3 2 2 2 5 3	1 9 2 2 11 3 4 12 5	1 2 2 3 3 12 4 5	11 12 22 23 33 33 44 44 133 55		9 9 0 0 1 3 4 2 5 5	1 2 2 3 11 4 12 13 13 6 6	9 9 10 10 3 11 4 12 5	11 00 22 00 00 00 00 00 00 00		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 12 0 0	0 0 0 0 0 0 0
state 3 state 4 state 5 state 6 state 7 state 8 state 9 state 10 state 11 state 12	99 100 100 33 33 122 22 133 160)	9 1 0 2 3 1 4 4 3 3 6	9 10 10 11 11 11 12 12 13 13 6	9 2 10 11 11 4 4 5 5	99 99 100 110 33 111 122 4 5 5 6		1 1 2 2 3 3 3 2 2 5 3 4	1 9 2 2 11 3 4 12 5 5	1 2 2 3 3 12 4 5 13 6	11 12 22 23 33 34 44 133 55		9 9 0 0 1 3 4 2 5 5	1 2 2 3 11 4 12 13 13	9 9 10 10 3 11 4 12 5 5	11 00 00 33 00 44 00 55 00 66		00 00 00 00 00 00 00 00 00	0 0 0 0 0 0 12 0 0	0 0 0 0 0 0 0

State Transition Map:

999 999 0 1 999																
999 9	0	1	999	999	999	999	999	999	999	999	999	999	999	999	999	999
999 999 <td>999</td> <td>999</td> <td>0</td> <td>1</td> <td>999</td>	999	999	0	1	999	999	999	999	999	999	999	999	999	999	999	999
999 999 <td>999</td> <td>999</td> <td>999</td> <td>999</td> <td>0</td> <td>1</td> <td>999</td>	999	999	999	999	0	1	999	999	999	999	999	999	999	999	999	999
999 9	999	999	999	999	999	999	0	1	999	999	999	999	999	999	999	999
999 9	999	999	999	999	999	999	999	999	0	1	999	999	999	999	999	999
999 9	999	999	999	999	999	999	999	999	999	999	0	1	999	999	999	999
0 1 999 </td <td>999</td> <td>0</td> <td>1</td> <td>999</td> <td>999</td>	999	999	999	999	999	999	999	999	999	999	999	999	0	1	999	999
999 9	999	999	999	999	999	999	999	999	999	999	999	999	999	999	0	1
999 9	0	1	999	999	999	999	999	999	999	999	999	999	999	999	999	999
999 9	999	999	0	1	999	999	999	999	999	999	999	999	999	999	999	999
999 9	999	999	999	999	0	1	999	999	999	999	999	999	999	999	999	999
999 9	999	999	999	999	999	999	0	1	999	999	999	999	999	999	999	999
999 999 999 999 999 999 999 999 999 999 999 999 999 999 999 999	999	999	999	999	999	999	999	999	0	1	999	999	999	999	999	999
	999	999	999	999	999	999	999	999	999	999	0	1	999	999	999	999
999 999 999 999 999 999 999 999 999 999 999 999 999 0	999	999	999	999	999	999	999	999	999	999	999	999	0	1	999	999
	999	999	999	999	999	999	999	999	999	999	999	999	999	999	0	1

Output Map:

0	15	999	999	999	999	999	999	999	999	999	999	999	999	999	999
999	999	14	1	999	999	999	999	999	999	999	999	999	999	999	999
999	999	999	999	11	4	999	999	999	999	999	999	999	999	999	999
999	999	999	999	999	999	5	10	999	999	999	999	999	999	999	999
999	999	999	999	999	999	999	999	12	3	999	999	999	999	999	999
999	999	999	999	999	999	999	999	999	999	2	13	999	999	999	999
999	999	999	999	999	999	999	999	999	999	999	999	7	8	999	999
999	999	999	999	999	999	999	999	999	999	999	999	999	999	9	6
15	0	999	999	999	999	999	999	999	999	999	999	999	999	999	999
999	999	1	14	999	999	999	999	999	999	999	999	999	999	999	999
999	999	999	999	4	11	999	999	999	999	999	999	999	999	999	999
999	999	999	999	999	999	10	5	999	999	999	999	999	999	999	999
999	999	999	999	999	999	999	999	3	12	999	999	999	999	999	999
999	999	999	999	999	999	999	999	999	999	13	2	999	999	999	999
999	999	999	999	999	999	999	999	999	999	999	999	8	7	999	999
999	999	999	999	999	999	999	999	999	999	999	999	999	999	6	9