

# bAbI Results

Task	bAbI Best Results						
	LSTM (Joint)	NTM (Joint)	DNC1 (Joint)	DNC2 (Joint)	MemN2N (Joint) <sup>21</sup>	MemN2N (Single) <sup>21</sup>	DMN (Single) <sup>20</sup>
1: 1 supporting fact	24.5	31.5	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
2: 2 supporting facts	53.2	54.5	1.3	0.4	1.0	<b>0.3</b>	1.8
3: 3 supporting facts	48.3	43.9	2.4	<b>1.8</b>	6.8	2.1	4.8
4: 2 argument rels.	0.4	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
5: 3 argument rels.	3.5	0.8	<b>0.5</b>	0.8	6.1	0.8	0.7
6: yes/no questions	11.5	17.1	<b>0.0</b>	<b>0.0</b>	0.1	0.1	<b>0.0</b>
7: counting	15.0	17.8	<b>0.2</b>	0.6	6.6	2.0	3.1
8: lists/sets	16.5	13.8	<b>0.1</b>	0.3	2.7	0.9	3.5
9: simple negation	10.5	16.4	<b>0.0</b>	0.2	<b>0.0</b>	0.3	<b>0.0</b>
10: indefinite knowl.	22.9	16.6	0.2	0.2	0.5	<b>0.0</b>	<b>0.0</b>
11: basic coreference	6.1	15.2	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	0.1	0.1
12: conjunction	3.8	8.9	0.1	<b>0.0</b>	0.1	<b>0.0</b>	<b>0.0</b>
13: compound coref.	0.5	7.4	<b>0.0</b>	0.1	<b>0.0</b>	<b>0.0</b>	0.2
14: time reasoning	55.3	24.2	0.3	0.4	<b>0.0</b>	0.1	<b>0.0</b>
15: basic deduction	44.7	47.0	<b>0.0</b>	<b>0.0</b>	0.2	<b>0.0</b>	<b>0.0</b>
16: basic induction	52.6	53.6	52.4	55.1	<b>0.2</b>	51.8	0.6
17: positional reas.	39.2	25.5	24.1	<b>12.0</b>	41.8	18.6	40.4
18: size reasoning	4.8	2.2	4.0	<b>0.8</b>	8.0	5.3	4.7
19: path finding	89.5	4.3	<b>0.1</b>	3.9	75.7	2.3	65.5
20: agent motiv.	1.3	1.5	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Mean Err. (%)	25.2	20.1	4.3	<b>3.8</b>	7.5	4.2	6.4
Failed (err. > 5%)	15	16	<b>2</b>	<b>2</b>	6	3	<b>2</b>

*Ask me anything: dynamic memory networks for natural language processing, Kumar et. al. (2015)*

*End-to-end memory networks, Sukhbaatar et. al. (2015)*