Question 7 answer :
superlative
[42.857142857142854, 76.19047619047619, 80.95238095238095]
city-in-state
[33.33333333333333, 61.111111111111114, 83.33333333333334]
family
[70.51282051282051, 91.02564102564102, 96.7948717948718]
adjective-to-adverb
[1.1111111111111112, 12.222222222222221, 22.22222222222222]
currency
[10.0, 10.0, 10.0]
nationality-adjective
[45.348837209302324, 74.4186046511628, 87.20930232558139]
capital
[8.333333333333332, 58.333333333333336, 75.0]
comparative
[53.333333333333336, 76.19047619047619, 80.0]

Final answer
{'superlative': [42.857142857142854, 76.19047619047619, 80.95238095238095],
'city-in-state': [33.33333333333333, 61.111111111111114, 83.33333333333334],
'family': [70.51282051282051, 91.02564102564102, 96.7948717948718], 'adjective-
to-adverb': [1.1111111111111112, 12.222222222222221, 22.22222222222222],
'currency': [10.0, 10.0, 10.0], 'nationality-adjective': [45.348837209302324,
74.4186046511628, 87.20930232558139], 'capital': [8.333333333333332,
58.333333333333336, 75.0], 'comparative': [53.333333333333336,
76.19047619047619, 80.0]}

Following is the table for all categories with different accuracy:

Category	1-best	5-best	10-best
adjective-to-adverb	1.11%	12.22%	22.22%
currency	10%	10%	10%
nationality-adjective	45.35%	74.42%	87.21%
capital	8.33%	58.33%	75%
comparative	53.33%	76.19%	80%
city-in-state	33.33%	61.11%	83.33%
family	70.51%	91.02%	96.79%
superlative	42.86%	76.19%	80.95%

Category	Incorrectly predicted	Correct Answer
adjective-to-adverb	regular	most
currency	wins	korea
nationality-adjective	language	england
capital	queens	london
comparative	good	great
city-in-state	newark	seattle
family	sons	brothers
superlative	good	great

Q: Are there certain kinds of relations that seem to be predicted more accurately or less accurately by this method? Discuss your opinions and give a rationale for them.

Ans:

It seems from the table that all the relations have overall good accuracy for data. Relations, which have most accuracy predictions, are 'family', 'comparative', 'superlative' in which all have above 40% 1-best accuracy and above 70% 5-best accuracy.
Also relations 'adjective-to-adverb', 'capital' and 'currency' are producing lower prediction accuracies in which all have below 10% 1-best accuracy. In English documents we usually find words in the context of 'family' as many books have stories about family of students, scientists or real life heroes. I think this the main rationale behind getting so high prediction accuracy for 'family' relation. Similarly in literature, comparative adjectives are highly used like 'bad', 'worse' , 'better' and thus have high accuracy for 'comparative' relation. Similarly, not having enough reference for 'capital', 'currency' relations in literature is the main reason for their lower accuracy.