2: At a local talent show 2 judges were asked to rank 10 performances, in order of preference. The results are shown in the following table.

Performance	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*
Judge 1	1	3	5	7	9	10	2	6	8	4
Judge 2	2	1	3	7	9	4	5	8	10	6

(a) Calculate Spearman's rank correlation coefficient for these data.
Show your working clearly.

(3)

(b) Stating your hypotheses clearly, test at the 1% level of significance, whether or not there is evidence of a positive correlation between the ranks of Judge 1 and the ranks of Judge 2

(4)

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Question 2 continued

(Total for Question 2 is 7 marks)