# Empirical Study of Running Correlations in Exam Marks: Same Statistical Pattern as Chance

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**Abstract :** It is well established that there may be running correlations in sequential exam marks due to students sitting in the order of course registration patterns. As such, a random and non-sequential sampling of exam marks is a standard recommended practice. Here, the paper examines a large number of exam data stretching several years across different modules to see the degree to which it is true. Using the real mark distribution as a generative process, it was found that random simulated data had no more sequential randomness than the real data. That is to say, the running correlations that one often observes are statistically identical to chance. Digging deeper, it was found that some high running correlations have students that indeed share a common course history and make similar mistakes. However, at the statistical scale of a module question, the combined effect is statistically similar to the random shuffling of papers. As such, there may not be the need to take random samples for marks, but it still remains good practice to mark papers in a random sequence to reduce the repetitive marking bias and errors.
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