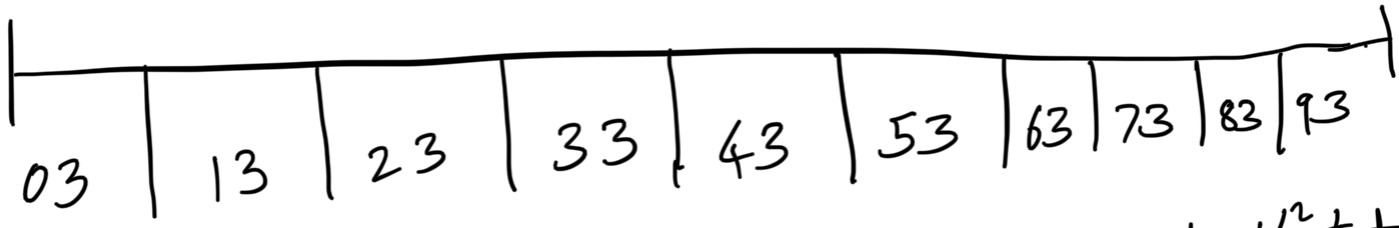
① The student's method introduces a significant bias into the set of generated numbers.

A fundamental assumption of the chi-squared test for goodness of fit is that the observations are statistically independent. By including both 0.ab and 0.ba every time a number is generated, the student's method violates this assumption because the presence of one number directly implies the presence of another. This linkage between numbers reduces their statistical independence.

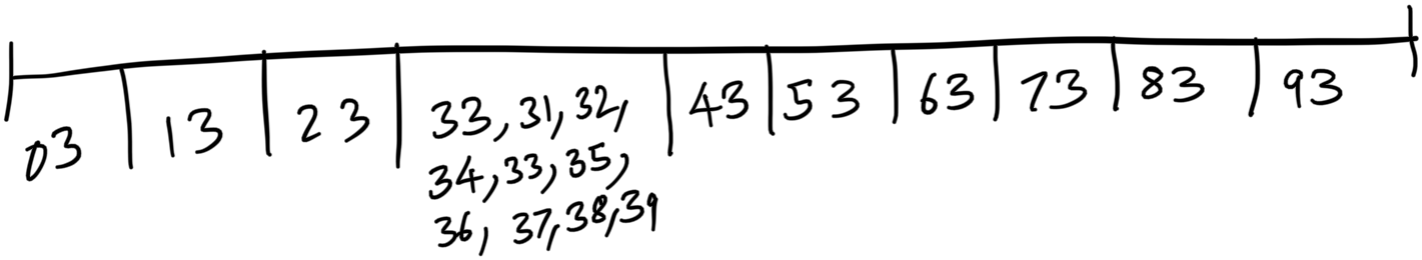
The chi-squared test is used to determine if the generated numbers are uniformly distributed across the ten classes. By artificially doubling the numbers in the manner proposed, the distribution of numbers

across these intervals may no longer be uniform.
To illustrate this with a simple and small example,



The above set of numbers would pass the χ^2-test because they are distributed uniformly across the ten classes.

But if we include the reversed numbers,



The above distribution is clearly not uniform. This can act as a simple base case proof that the student's proposed method would

as to why the [illegible]

not work.