

# AI Usage and Comments

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I am writing this separately because I need to address the code of the bosonized Schwinger model in our final submission.

1. AI Usage: Gemini Pro was used to generate much of the code but it failed until I trained it on the dataset of the references. Also, it did not know how to do *physics* so I explained the structure of the codes and the variables and functions used.
2. Codes: There were three files I used for my work. These are `complete.py`, `new.ipynb`, and `noisy.py`. The noisy one does not have anything to do with noise; that is just a remnant of why I named it such. I asked Gemini to merge them sensibly and it gave the code I am submitting as part of my term paper combined code: `Term_Paper.ipynb`. However, this one will only generate the simpler plots and some plots that took long ( $\approx 20$ -30 minutes each) are not included. I request you to go through the separate three code files for any clarifications.