Code description:

The `computeStructureFunction` program computes the structure function $S_\rho(k)$ for N densities $\rho_i = \rho_c + i*0.0005$ (with ρ_c the critical density and $i \in \{0, 1, 2, \ldots, N-1\}$) in a 2D periodic system of size L.

For each density ρ_i, the program performs `n_samples` simulations and calculates $S_{\rho_i}(k)$ by averaging all the results.

All results are saved in the `Sxx.txt` file (`'xx'` corresponding to the number of the simulation i). The first row of each file corresponds to the particle density ρ_i.

Input parameters:

Parameter	**Variable name**	**Data type**
Save folder	`save_folder`	string
System size L	`L`	integer
Critical density ρ_c	`rho_c`	double
Number of densities N	`N`	integer
Number of samples	`n_samples`	integer

Post process:

The `post_process.py` script retrieves all the values from the files `Sxx.txt` and plots renormalized $S(k)$.