1. From the Reynolds transport theorem to derive the governing equation of the passive scalar.

2. From the function library (in Fortran, C++ or something else) to invoke random number generators to obtain two random numbers. Then check the correlation coefficient.

3. Disturb the water inside a cup with a size $\sim 10cm$. Estimate the dissipative scale (Kolmogorov scale).

4. Download the experimental series (t3.txt from the 'File' directory on Canvas) and calculate its energy spectrum.