Math 750 - HW # 0
Due Tuesday, Aug. 29

1. A standard problem in Math 703 is to show if a sequence $\{a_n\}_{n=1}^{\infty}$ is convergent to a, then its *Cesaro means* σ_n, defined by

$$\sigma_n := \frac{1}{n} \sum_{k=1}^{n} a_k,$$

   are also convergent and converge to a. Prove this.

2. Experiment with the matlab demo provided. This is plotting the sequence n-th Fourier partial sums (green), its Cesaro means (blue), and the target function of the characteristic function (red). Depending on the speed of your machine, you may want to modify n, or Δt.

3. Send me a list of the previous USC graduate courses you have taken by Monday noon.