CS698D Homework 2

Due Date: November 18, 2017

1. Let A be a finite alphabet. Show that every Bernoulli distribution on A^∞ is stationary ergodic.

2. Let A be the binary alphabet. Construct the left-shift transformation $T : A^\infty \to A^\infty$ by cutting and stacking. You will identify during the construction that the transformation is undefined for certain points. Which points are these?

3. Use Shields' lemma on cutting and stacking to show that the left-shift transformation on binary sequences is ergodic. (This is an alternative proof that the transformation is ergodic.)