

Math 149: Third Problem Set

February 20, 2014

This should be completed by Tuesday, March 4.

1. Suppose that you are in charge of designing a robot for cleaning up in a bar. It needs to recognize bowls, glasses, and bottles, because bottles need to go to recycling, and glasses and bowls go to different parts of the dishwasher. Devise a family of barcode signatures, possibly involving functional persistence, which can distinguish between them. You can define how you characterize the different classes of objects, but be explicit about it.
2. Devise a family of barcode signatures (functional, perhaps) which distinguish the Greek letters α , β , γ , δ , ϵ , σ , and λ .