

1116-A1-1306 **Ruth Vanderpool*** (r.e.vanderpool@gmail.com), School of Interdisciplinary Arts & Sciences,
University of Washington Tacoma, 1900 Commerce Street, Tacoma, WA 98401. *Examples of
Programming Labs that Apply and Motivate Discrete Math using Sage.*

Three labs developed for a Discrete class housed in a Computer Science department will be presented along with the student responses. All labs were created with the open-source mathematical software SAGE and are available for use and modification. The first lab has students use formal logic to make database inquiries. The second leads students to discover cardinality results as they practice set builder notation and set operations. The third lab uses cipher codes to motivate modular arithmetic and the existence of inverses. (Received September 18, 2015)