

Name: _____

CIS 351 Sample SL6 Problem

06 January 2022

SL6: Design a Sequential Circuit

Design a sequential circuit that will examine a sequence of characters and determine whether all five vowels are present in the string. The circuit will have one 8-bit input that will contain the ASCII representation of a character. On each clock tick, the input will contain the next character in the sequence. The circuit also has a 1-bit output that is initially `false` and becomes `true` once all five vowels have been observed. You may treat sub-circuits “`is a`”, “`is e`”, “`is i`”, “`is o`”, and “`is u`” as “black boxes”.