Rajat Sethi – CPSC 3500 – Testlet 3

1a.) S 🡪 0S | 0S1 | 0T | ε

T 🡪 1S | ε

1b.) S 🡪 xSx | ySy | ε

2a.) 0001

2b.) 0110

2c.) Yes

2d.) No

3a.) 1110 and 0101

3b.) 1111 and 0000

3c.) This PDA generates all strings with alphabet {0, 1} in which the string contains any non-empty starting substring and ends with its reversed complement. For example, if a string has a starting substring of 001010, then it must end with 101011. The empty string cannot be the starting substring.