Exercise 7

Turing Machines

Q 1: Design a Turing Machine M over {0,1} such that L(M)={w|w contains equal numbers 0s and 1s}.

Q 2: Design a Turing Machine M over {0,1} such that L(M)={0n12n|n>=1}

Q 3: Design a Turing Machine M over {0,1,2} such that L(M)={0n12n 2n|n>=1}

Q 4: Design a Post Machine M over {a,b} such that L(M)={0n1n0n|n>=1}

Q 5: Design a Turing Machine M to find the predecessor of a positive integer.

Q 6: Design a Turing Machine M over {a,b} such that L(M)={x| length of x is odd}