

State S0:

If on 0, then: write 0, move right, go to state S0  
else: write 1, move left, go to state S1

State S1:

If on 0, then: write 0, move left, go to state S1  
else: write 1, move left, go to state S2

State S2:

If on 0, then: write 0, move right, go to state S2  
else: write 1, move right, go to state S3

State S3:

If on 0, then: write 1, move right, stop  
else: write 1, move right, go to state S3