

Section 13.5:

Ex.2

(b) $\dots BB111BBB\dots$

we will find the final tape and ~~wh~~ step by step.

Step 1: $[S_0]111$

Step 2: $[S_1]B011 \Rightarrow$ so the final tape 0011

Step 3: $0[S_2]011$

Step 4: halt

Ex.8 Construct a Turing machine with symbols $0, 1, B$

Sol: The state referred to this problem is very simple:

The tuples ^{are} $(S_0, 0, S_0, 1, R)$ and $(S_0, 1, S_0, 1, R)$

when the input is over, the ~~ma~~ turing machine will halt.

Ex.18: Construct a Turing machine that complete the function
 $f(n) = n+2$ for all nonegative integers n .

Sol: The key point to solve this problem is to put in 2 extra 1s.

The corresponding tuples are $(S_0, 1, S_1, 1, L)$ and $(S_1, B, S_2, 1, L)$

and $(S_2, B, S_3, 1, L)$