

1. Given the following Turing Machine and input tape, what would be the behavior of the machine?

.....	b	1	0	1	b	b
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$(0,0,0,0,R)$
 $(0,1,1,1,R)$
 $(1,0,0,2,R)$
 $(2,1,1,3,R)$

$\uparrow \uparrow \uparrow \uparrow$
 $0 + 2 = 3$

writes 101 then halts
in state 3 reading a blank.

2. If the machine in #1 were a recognizer, what would be the recognizing state? 3
3. If the machine in #1 were a recognizer, did it recognize the given input? yes