Roll Number: 20L-1139

Q: Design a Single Tape Turing Machine that will recognize following language over {a,b,c}?

$L = \{ a^i b^j c^k ; i \geq j \geq k ; k \geq 0 \}$

Case 1

$	a	a	a	a	b	b	b	c	c	Δ

$ x a a a x b b x c Δ

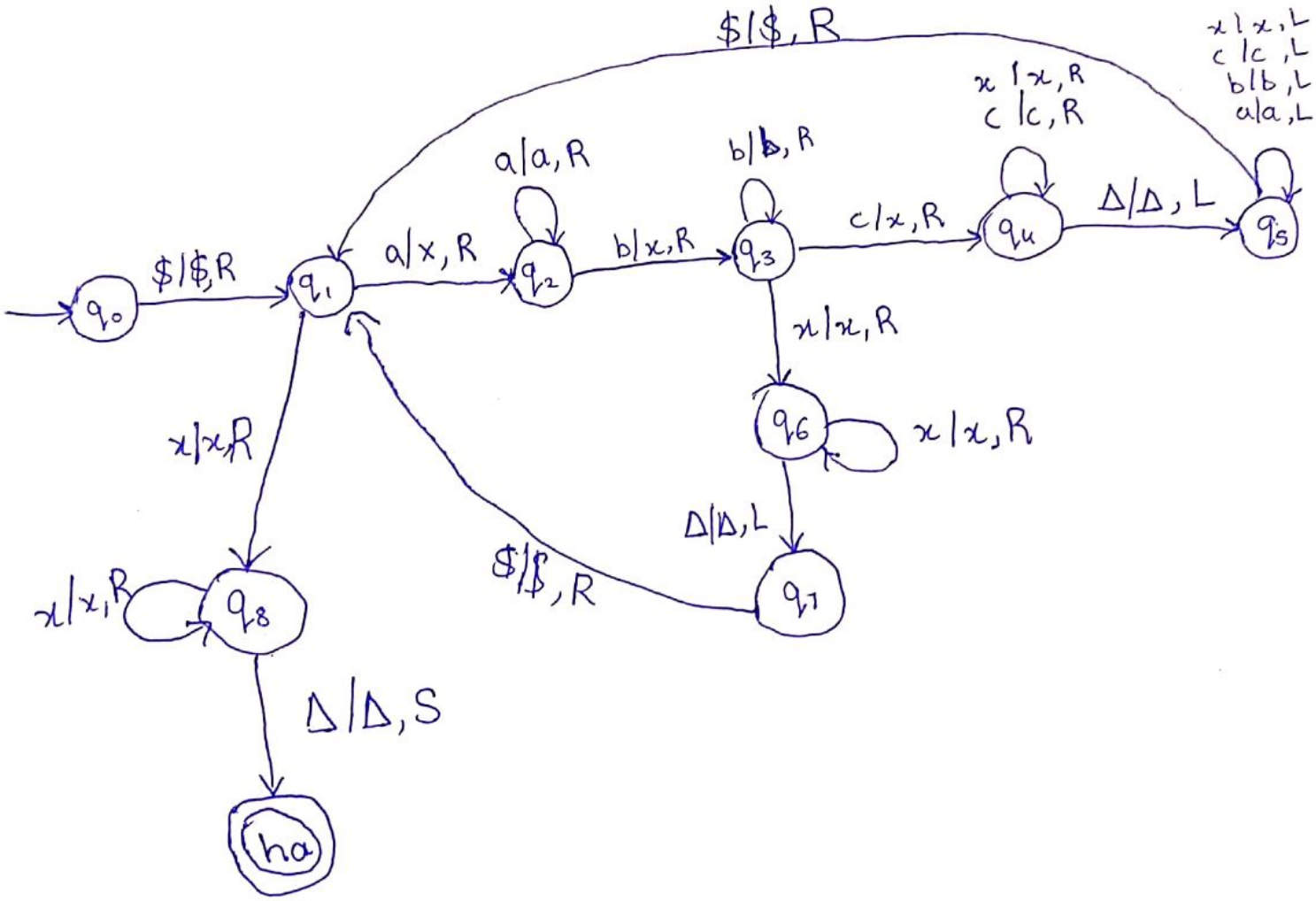
$ x x a a x x b x x Δ

$ x x x a x x x x x Δ

Case 2

i=j=k

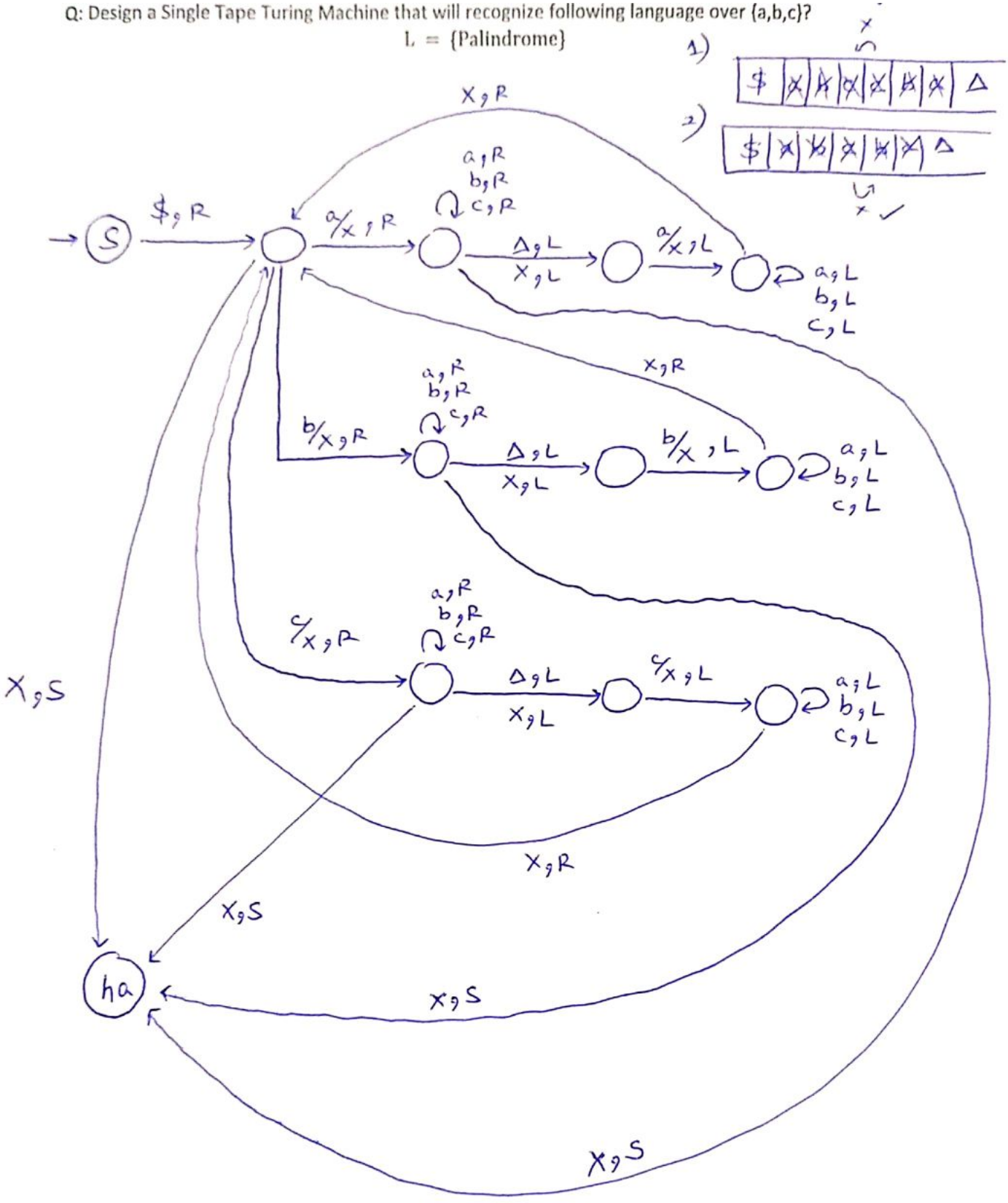
$ aabbcc Δ



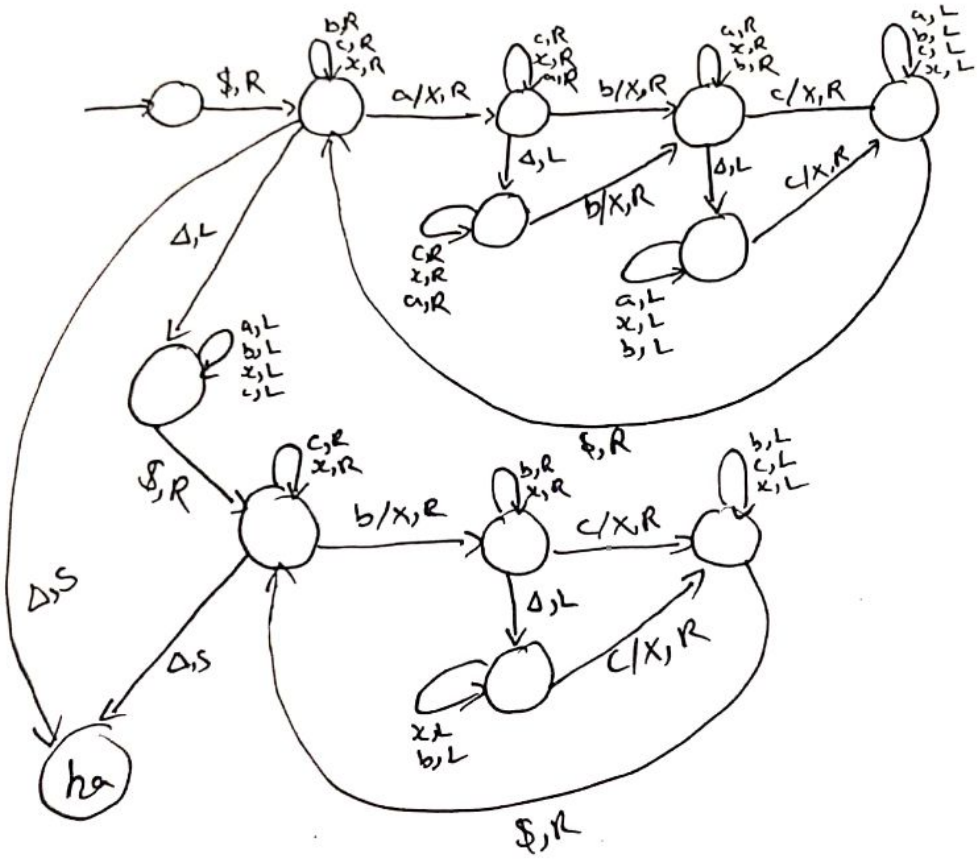
Assumption: There is $ before the input string

Q: Design a Single Tape Turing Machine that will recognize following language over {a,b,c}?

L = {Palindrome}



$L = \{a^i b^j c^k ; i \le j \le k ; k \ge 0\}$



i ; k

aabbcc

aabbbcc

i smallest
j middle
k largest
All x's equal
c's remaining

bcc.

cbaabbc

k=0
then
all
0's

Q: Design a Single Tape Turing Machine that will recognize following language over {a,b,c}?

L = {Non – Palindrome}