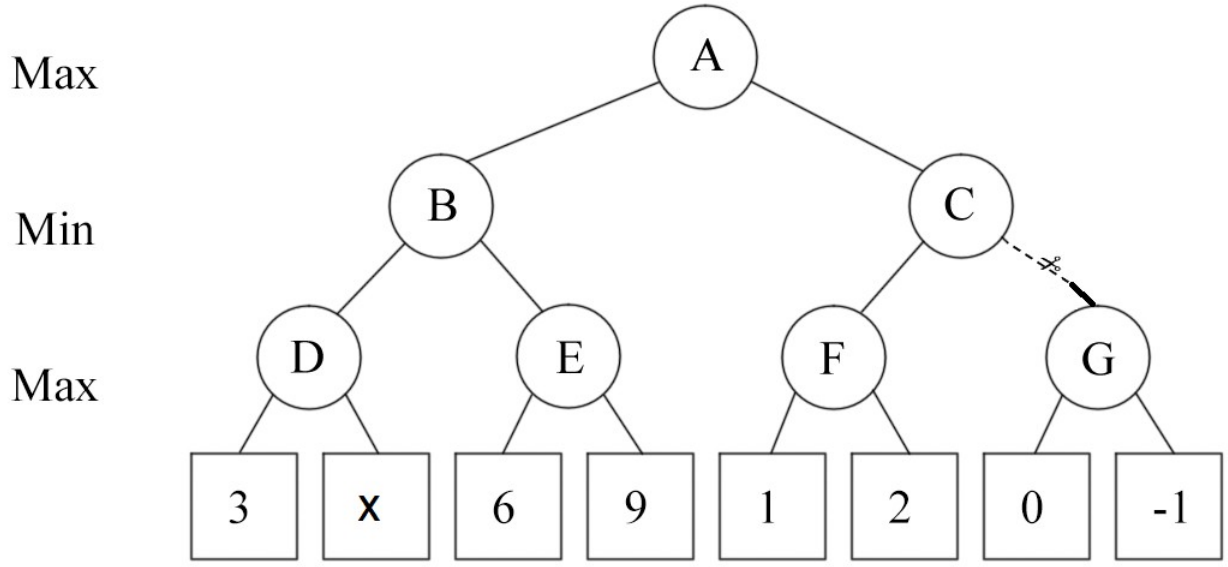
National University of Computer and Emerging Sciences, Lahore Campus

Course:	Artificial Intelligence	Course Code:	CS401
Program:	BS(Computer Science)	Semester:	Spring 17
Duration:	20 min	Total Marks:	10
Paper Date:	02-03-17	Weight	2%
Section:	E	Page(s):	
Exam:	Quiz 2	Reg. No	

Instruction/Notes:

State for which values of x the dashed branch with the scissors will be pruned. If the pruning will not happen for any value of x write **none**. If pruning will happen for all values of x write **all**, show your working clearly



Assuming the tree is traversed from left to right.

C will be pruned if $v_c <= alpha_c$ where v_c is obtained from F node.

Initially $alpha_{c =}$ min (max (3, X), max (6, 9))

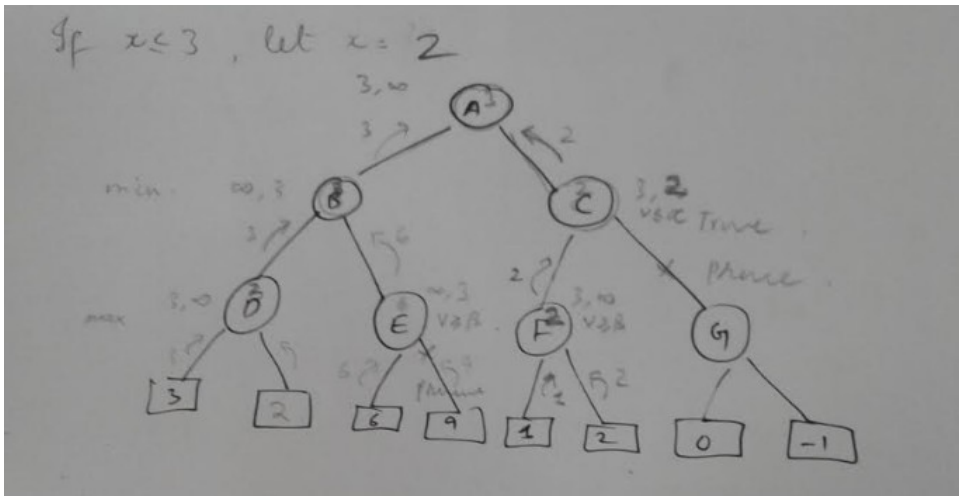
$alpha_{c=}$ min (max(3,X) , 9)

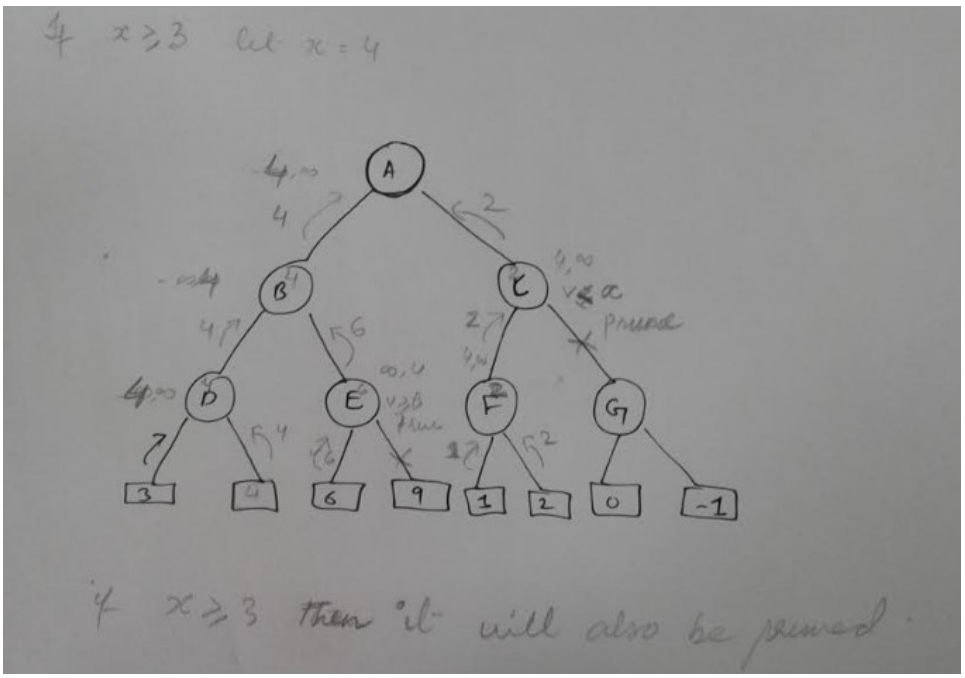
9=>$alpha_c$ >=3 for any value of X

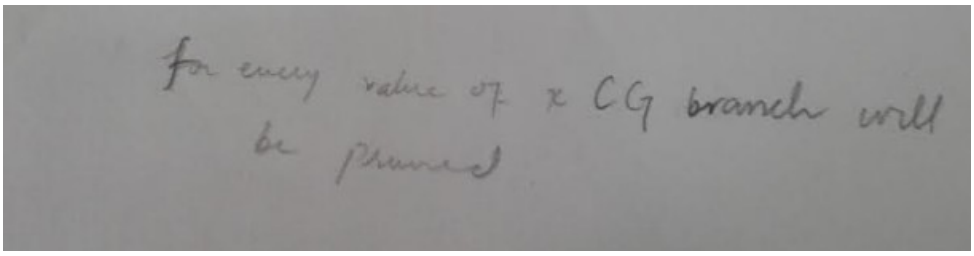
v_c (obtained from F node)= max(1,2)= 2

$v_c < a_c$

CG branch will be pruned for every value of X


If x≤3, let x = 2
A
B
C
D
E
F
G
3
2
6
9
1
2
0
-1
min
max
Prune
Prune


If x≥3 let x = 4
A
B
C
D
E
F
G
3
4
6
9
1
2
0
-1
Prune
if x≥3 then it will also be pruned.


for every value of x CG branch will be pruned