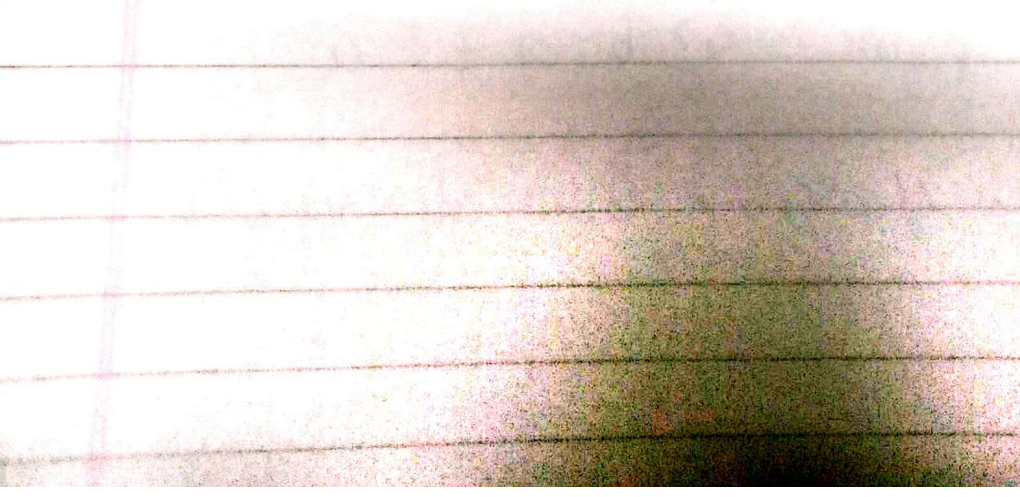
Name : Siddharth S Soni

class : BE IT

Roll no : 66

Subject : IS lab

DOP	DOA	Remark	Sign



Alpha - Beta pruning:

Alpha-beta pruning : Alpha beta pruning is a modified session of the min max algo it is an optimization technique for the minmax algo

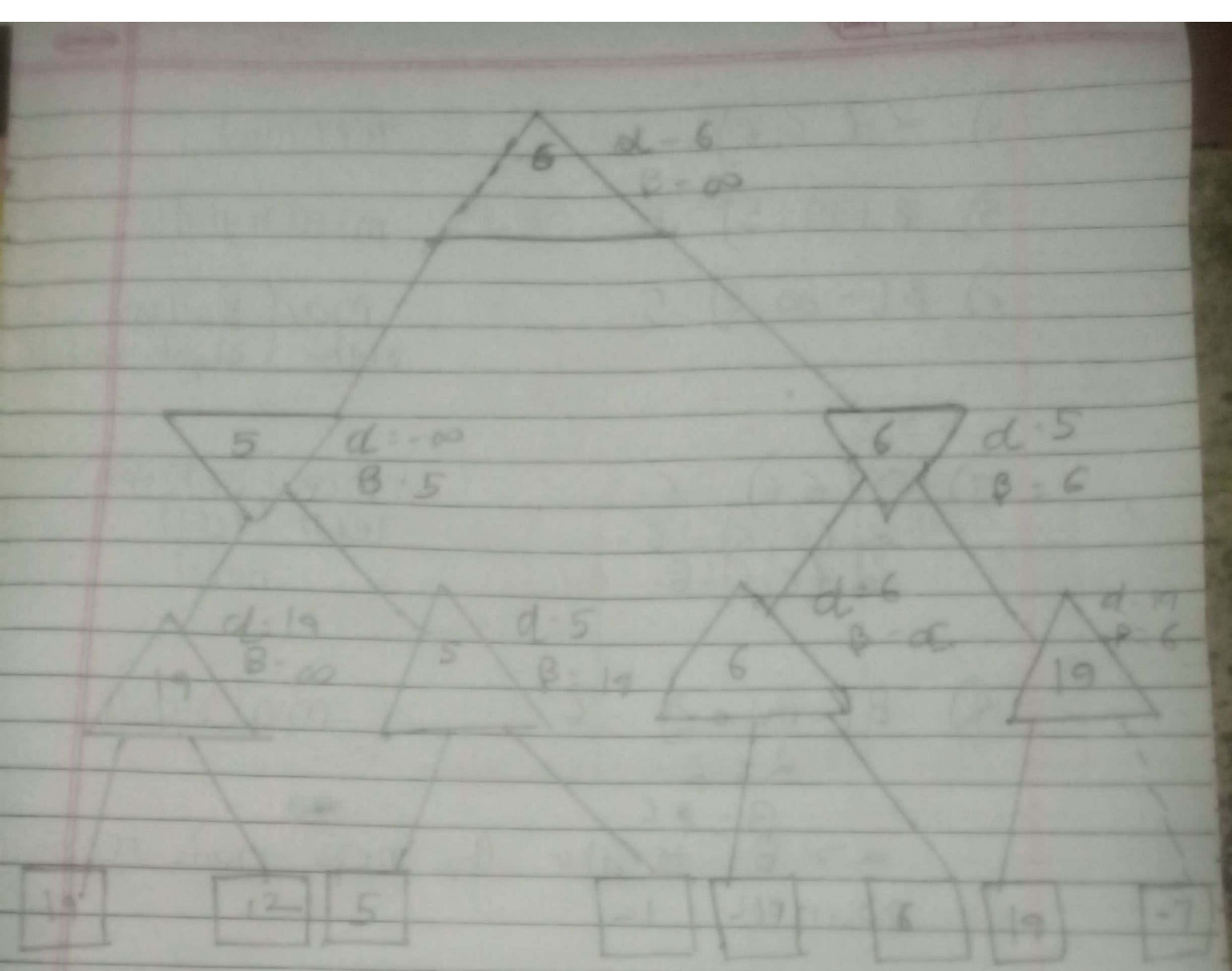
- Alpha (α) : The list (right - value)
  Initial value of alpha is $-\infty$

- Beta (β) : The list (highest value)
  - Initial value is Beta is $+\infty$

- Rules & conditions
1) the max player will only update the value of alpha
2) The min player will only update the value of β.
3) We will only pass the alpha, beta values to the child nodes
4) Node values will be passed to upper nodes instead of value of alpha and beta

- condition to prune : $a \geq b$ or $b \leq a$

- when alpha is greater than is equal to beta.



1) $\alpha - (-\infty, 19) = 19$
$\alpha (-\infty, 12) = 12$
$\alpha (19, 12) = 19$
- Max (Bottom

2) $\beta (\infty, 19) = 19$
- Min (left)

3) $\alpha (-\infty, 5) = 5$
$\alpha (-\infty, -1) = -1$
$\alpha (5, -1) = 5$
- Max (Bottom (RM) (left node)

4) $\alpha[6,6)$. - Top (max)

5) $\beta(19,5) = 5$ - min (right)

6) $\beta(-\infty, 5) = 5$ - max (Bottom right (right node)

7) $\alpha(6,6)$ 6
$\alpha(6,6) = 6$
$\alpha[6,6) = 6$
- max (Bottom left) (left node)

8) $\beta[\infty, 6) = 6$ - min (right)
$2 = 6$
$\beta = 6$
$\alpha >= \beta$ so the next node is pruned

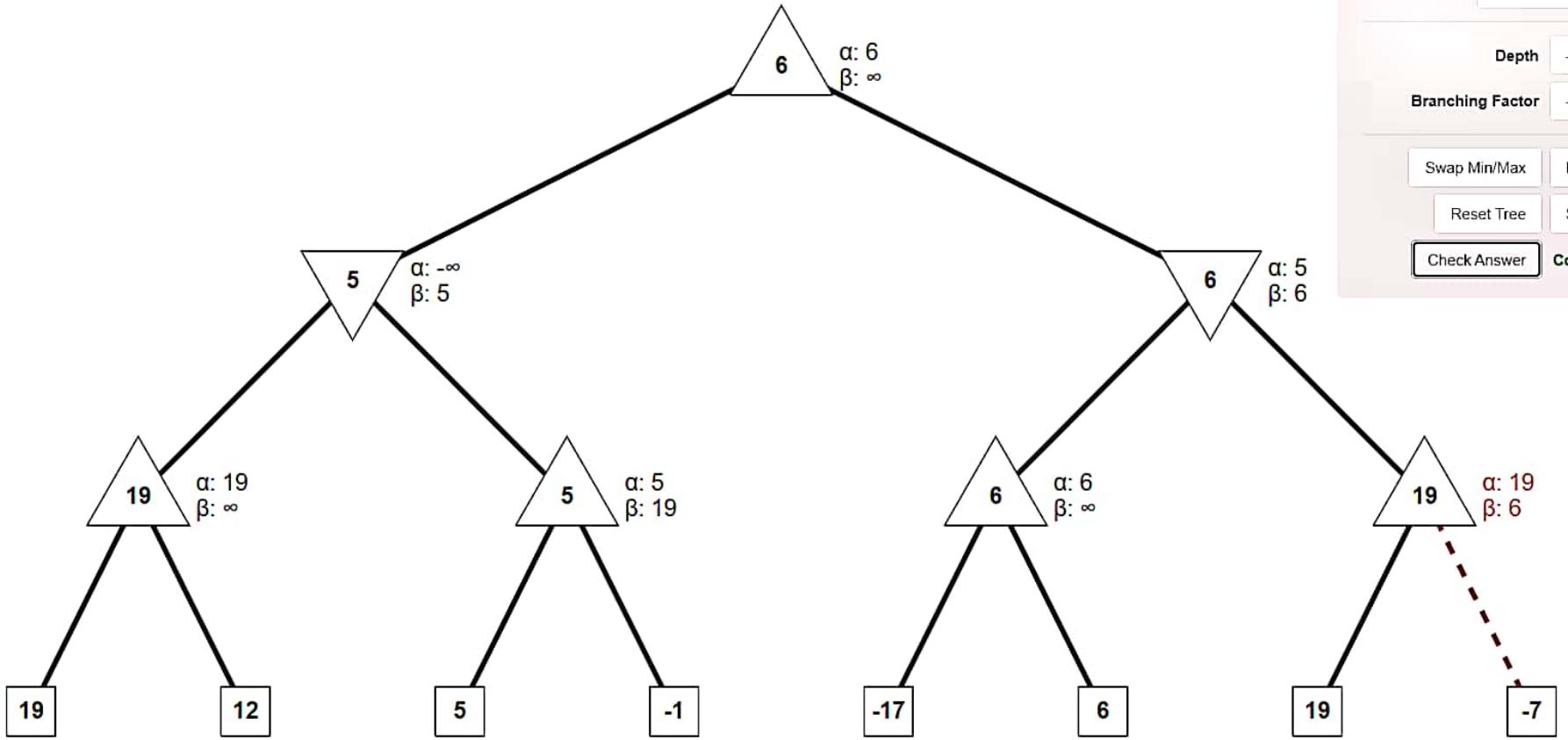
9) $\alpha = 6$
$\beta = \infty$ max

$\alpha(1,6) = 6$ Solution

File | C:/Users/ACER/Downloads/abTreePractice-master%20(1)/abTreePractice-master/index.html

Alpha-Beta Pruning Practice

αβ Cutoff



Start Animation

Depth - +

Branching Factor - +

Swap Min/Max | Regenerate Tree

Reset Tree | Show Solution

Check Answer **Correct!**

Star Developed by Aleks Kamko for UC Berkeley CS61B

Nodes are pruned when β ≤ α.