

USAMA SARWAR

FA17 - BCS-090

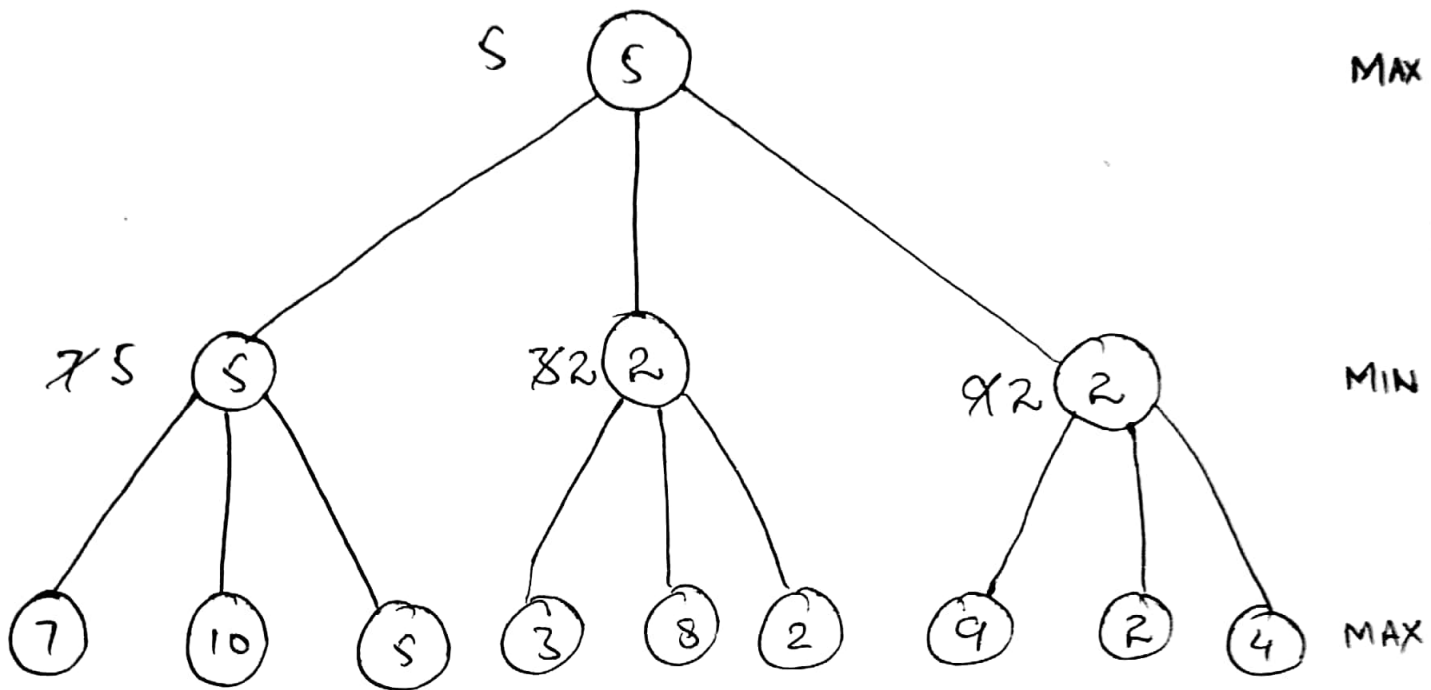
ARTIFICIAL INTELLIGENCE

SESSIONAL # 02

COMSATS University Islamabad

Sahival Campus

MINIMAX

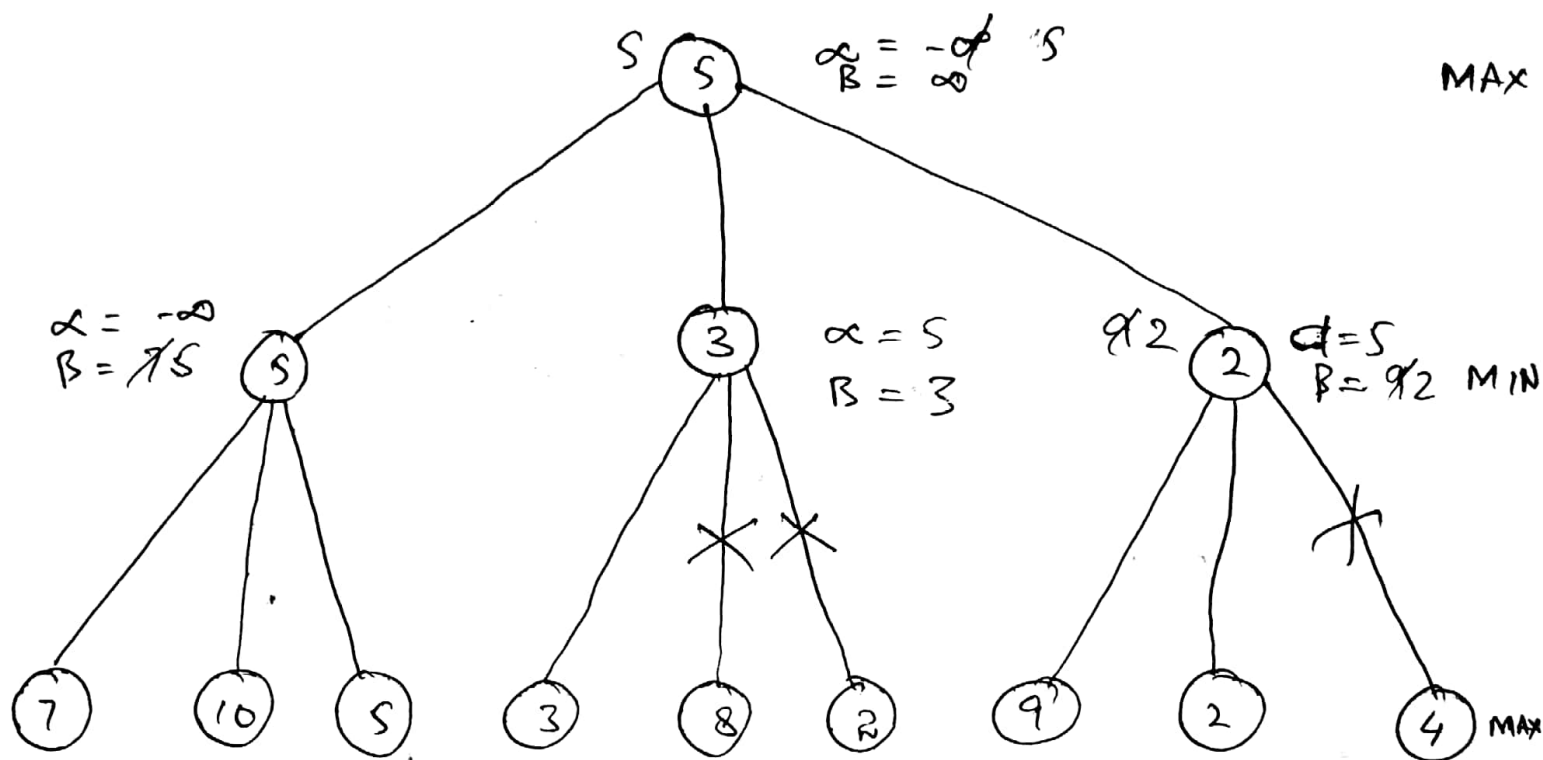


Observation

$$\left. \begin{aligned} (-\infty, 7) &\Rightarrow (7, 10) \Rightarrow (7, 5) \Rightarrow S \\ (-\infty, 3) &\Rightarrow (3, 8) \Rightarrow (3, 2) \Rightarrow 2 \\ (-\infty, 9) &\Rightarrow (9, 2) \Rightarrow (2, 4) \Rightarrow 2 \end{aligned} \right\} \text{MIN}$$

$$(-\infty, S) \Rightarrow (S, 2) \Rightarrow (S, 2) \Rightarrow S \left. \vphantom{(-\infty, S)} \right\} \text{MAX}$$

Alpha-Beta Pruning



Observation

$$(\infty, 7) \Rightarrow (7, 10) \Rightarrow (7, 5) \Rightarrow 5$$

$$(5, 3) \Rightarrow 3$$

$$(5, 9) \Rightarrow (5, 2) \Rightarrow 2$$

$$(5, 3) \Rightarrow (5, 2) \Rightarrow 5$$

Comparison

In alpha-beta pruning we reduced the amount of computation and searching during min max. Whereas Minimax is a two-pass search, one pass is used to assign heuristic values to the nodes at the depth of the tree. Alpha-beta search proceeds in the depth-first fashion.