

## MINIMAX

1.(Minimax-Decision '((4 (7 9 8) 8) (((3 6 4) 2 6) ((9 2 9) 4 7 (6 4 5)))) )

PATH TAKEN : 2 PATH TAKEN : 1 PATH TAKEN : 3

2. (Minimax-Decision '(((1 4) (3 (5 2 8 0) 7 (5 7 1)) (8 3)) (((3 6 4) 2 (9 3 0)) ((8 1 9) 8 (3 4 )))) )

PATH TAKEN : 1 PATH TAKEN : 1 PATH TAKEN : 2

3. (Minimax-Decision '(5 (((4 7 -2) 7) 6)) )

PATH TAKEN : 2 PATH TAKEN : 2

4. (Minimax-Decision '((8 (7 9 8) 4) (((3 6 4) 2 1) ((6 2 9) 4 7 (6 4 5)))) )

PATH TAKEN : 1 PATH TAKEN : 3

5. (Minimax-Decision '(((1 (4 7)) (3 ((5 2) (2 8 9) 0 -2) 7 (5 7 1)) (8 3)) (((8 (9 3 2) 5) 2 (9 (3 2) 0)) ((3 1 9) 8 (3 4 )))))

PATH TAKEN : 2 PATH TAKEN : 1 PATH TAKEN : 1 PATH TAKEN : 3

## Alpha-Beta Pruning

1.(Minimax-DecisionAB '((4 (7 9 8) 8) (((3 6 4) 2 6) ((9 2 9) 4 7 (6 4 5)))) )

MAX CUT AFTER = 7

MIN CUT AFTER =3

MIN CUT AFTER =2

MAX CUT AFTER = 7

MAX CUT AFTER = 7

MAX CUT AFTER = 7 PATH TAKEN WITH ALPHA BETA PRUNING : 2

MAX CUT AFTER = 7 PATH TAKEN WITH ALPHA BETA PRUNING : 1 PATH TAKEN WITH ALPHA BETA PRUNING : 3

## **2. (Minimax-DecisionAB '(((1 4) (3 (5 2 8 0) 7 (5 7 1)) (8 3)) (((3 6 4) 2 (9 3 0)) ((8 1 9) 8 (3 4 )))) )**

MIN CUT AFTER =2

MAX CUT AFTER = 7

MAX CUT AFTER = 8

MIN CUT AFTER =3

MIN CUT AFTER =3

MIN CUT AFTER =((3 6 4) 2 (9 3 0))

MIN CUT AFTER =2

MAX CUT AFTER = 7

MAX CUT AFTER = 8 PATH TAKEN WITH ALPHA BETA PRUNING : 1

MIN CUT AFTER =2

MAX CUT AFTER = 7

MAX CUT AFTER = 8 PATH TAKEN WITH ALPHA BETA PRUNING : 1 PATH TAKEN WITH ALPHA BETA PRUNING : 2

## **3. (Minimax-DecisionAB '(5 (((4 7 -2) 7) 6)) )**

MIN CUT AFTER =4 PATH TAKEN WITH ALPHA BETA PRUNING : 2 PATH TAKEN WITH ALPHA BETA PRUNING : 2

## **4. (Minimax-DecisionAB '((8 (7 9 8) 4) (((3 6 4) 2 1) ((6 2 9) 4 7 (6 4 5)))) )**

MAX CUT AFTER = 9

MIN CUT AFTER =3

MIN CUT AFTER =(3 6 4) 2 1)

MAX CUT AFTER = 9 PATH TAKEN WITH ALPHA BETA PRUNING : 1

MAX CUT AFTER = 9 PATH TAKEN WITH ALPHA BETA PRUNING : 3

**5.(Minimax-DecisionAB '(((1 (4 7)) (3 ((5 2) (2 8 9) 0 -2) 7 (5 7 1)) (8 3)) (((8 (9 3 2) 5) 2 (9 (3 2) 0)) ((3 1 9) 8 (3 4 )))))**

MAX CUT AFTER = 5

MAX CUT AFTER = 8

MIN CUT AFTER =0

MAX CUT AFTER = 7

MAX CUT AFTER = 8

MAX CUT AFTER = 9

MIN CUT AFTER =(3 2)

MIN CUT AFTER =3

MAX CUT AFTER = 8

MAX CUT AFTER = 5

MAX CUT AFTER = 8

MIN CUT AFTER =0

MAX CUT AFTER = 7

MAX CUT AFTER = 8

MAX CUT AFTER = 9

MIN CUT AFTER =(3 2)

MAX CUT AFTER = 8 PATH TAKEN WITH ALPHA BETA PRUNING : 2

MAX CUT AFTER = 9

MIN CUT AFTER =(3 2)

MAX CUT AFTER = 8

MAX CUT AFTER = 9

MIN CUT AFTER =(3 2) PATH TAKEN WITH ALPHA BETA PRUNING : 1

MAX CUT AFTER = 9

MIN CUT AFTER =(3 2)

MAX CUT AFTER = 9 PATH TAKEN WITH ALPHA BETA PRUNING : 1

MAX CUT AFTER = 9 PATH TAKEN WITH ALPHA BETA PRUNING : 3