# **EX:03 Alpha Beta Pruning**

**Program:**

MAX, MIN = 1000, -1000

def minimax(depth, nodeIndex, maximizingPlayer, values, alpha, beta):

if depth == 3:

return values[nodeIndex]

if maximizingPlayer:

best = MIN

for i in range(0, 2):

val = minimax(depth + 1, nodeIndex \* 2 + i, False, values, alpha, beta)

best = max(best, val)

alpha = max(alpha, best)

if beta <= alpha:

break

return best

else:

best = MAX

for i in range(0, 2):

val = minimax(depth + 1, nodeIndex \* 2 + i, True, values, alpha, beta)

best = min(best, val)

beta = min(beta, best)

if beta <= alpha:

break

return best

if \_\_name\_\_ == "\_\_main\_\_":

values = [3, 5, 6, 9, 1, 2, 0, -1]

alpha = MIN

beta = MAX

print("The optimal value is:", minimax(0, 0, True, values, alpha, beta))

**OUTPUT:**

The optimal value is: 5