

```
"C:\Users\Garg\Documents\programming home work\alpha_beta_pgm.exe"

Tic-Tac-Toe
1 | 2 | 3
4 | 5 | 6
7 | 8 | 9
Do you want to start first?(y/n) : y
Enter the depth between 1 to 9 which you want for the AI:
9

Enter the position = 5
-- --
X --
-- --

0 --
X --
-- --

Enter the position = 6
0 --
X X
-- --

0 --
0 X X
-- --
```

```
"C:\Users\Garg\Documents\program

Enter the position = 7
O --
O X X
X --

O -- O
O X X
X --

Enter the position = 2
O X O
O X X
X --

O X O
O X X
X O --

Enter the position = 9
O X O
O X X
X O X

It's a draw
```

```
"C:\Users\Garg\Documents\programming home work\alpha_beta_pgm.exe"
0 X X
X 0 _

Enter the position = 9
0 X 0
0 X X
X 0 X

It's a draw

Do you want to quit(y/n) : number of times mini-max is called is : 8668
```

Number of times mini-max is called in alpha-beta pruning is **8868**

```
"C:\Users\Garg\Documents\programming home work\minimax_algorithm_by_
Tic-Tac-Toe
1 | 2 | 3
4 | 5 | 6
7 | 8 | 9
Do you want to start first?(y/n) : y
Enter the depth between 1 to 9 which you want for the AI:
9

Enter the position = 5
_ _ _
_ X _
_ _ _

0 _ _
_ X _
_ _ _

Enter the position = 6
0 _ _
_ X X
_ _ _

0 _ _
0 X X
_ _ _
```

```

"C:\Users\Garg\Documents\programming home work\mi
Enter the position = 7
0 _ _
0 X X
X _ _

0 _ 0
0 X X
X _ _

Enter the position = 2
0 X 0
0 X X
X _ _

0 X 0
0 X X
X 0 _

Enter the position = 9
0 X 0
0 X X
X 0 X

It's a draw

```

```

Enter the position = 9
0 X 0
0 X X
X 0 X

It's a draw

Do you want to quit(y/n) : Number of times minimax is called is: 56386

```

Number of times mini-max is called in mini-max algorithm for the same case is pruning is **56386**

Therefore, the difference in the number of calls is $56386 - 8868 = 47518$

Hence alpha – beta drastically reduces the recursive calls to the mini-max function