EXPERIMENT 3

Aim:

To Implement the Minimax Algorithm in Artificial intelligence.

Code:

```
import math

def minimax (curDepth, nodeIndex,
             maxTurn, scores,
             targetDepth):

    # base case : targetDepth reached
    if (curDepth == targetDepth):
        return scores[nodeIndex]

    if (maxTurn):
        return max(minimax(curDepth + 1, nodeIndex * 2,
                   False, scores, targetDepth),
                   minimax(curDepth + 1, nodeIndex * 2 + 1,
                   False, scores, targetDepth))

    else:
        return min(minimax(curDepth + 1, nodeIndex * 2,
                     True, scores, targetDepth),
                   minimax(curDepth + 1, nodeIndex * 2 + 1,
                     True, scores, targetDepth))


scores = [3, 5, 2, 9, 12, 5, 23, 23]
```

```
treeDepth = math.log(len(scores), 2)

print("The optimal value is : ", end = "")
print(minimax(0, 0, True, scores, treeDepth))
```

Output:

```
The optimal value is:  12
```

Result:
Thus The Minimax Algorithm has been Implemented.