Department of Computer Science and Engineering
Data Science

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Class / Branch : TE-DS
Subject: AI Lab
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Experiment No. 5

Aim:- To perform adversarial search using Minmax Algorithm in python.

PROGRAM:

```
import math

def fun_Minmax(cd, node, scr, maxt, td):
if cd == td:
return scr[node]
if maxt:
return max(fun_Minmax(cd + 1, node * 2, scr, False, td),
fun_Minmax(cd + 1, node * 2 + 1, scr, False, td))
else:
return min(fun_Minmax(cd + 1, node * 2, scr, True, td),
fun_Minmax(cd + 1, node * 2 + 1, scr, True, td))

scr = []
x = int(input("Enter total number of leaf nodes: "))
for i in range(x):
y = int(input("Enter leaf node value: "))
scr.append(y)

td = int(math.log2(len(scr)))

cd = int(input("Enter current depth value: "))
node = int(input("Enter node index value: "))
maxt = True

print("The answer is", end=" ")
```

```
answer = fun_Minmax(cd, node, scr, maxt, td)
print(answer)
```

Output:

```
Enter total number of leaf nodes: 8
Enter leaf node value: 10
Enter leaf node value: 9
Enter leaf node value: 14
Enter leaf node value: 18
Enter leaf node value: 5
Enter leaf node value: 4
Enter leaf node value: 50
Enter leaf node value: 5
Enter current depth value: 0
Enter node index value: 0
The answer is 10
```