

1. Write a program to implement a Minimax decision-making algorithm, typically used in a turn-based, two player games. The goal of the algorithm is to find the optimal next move.

```
import math
def minimax(tree, depth):
    max_turn = bool(depth % 2)
    for _ in range(depth):
        zipped = zip(tree[::2], tree[1::2])
        if max_turn:
            tree = [max(a, b) for a, b in zipped] # max player
        else:
            tree = [min(a, b) for a, b in zipped] # min player
        max_turn = not max_turn # swapping turns
    return tree[0]
A = [-1, 4, 2, 6, -3, -5, 0, 7]
depth = math.ceil(math.log(len(A), 2))
print(f"Result = {minimax(A, depth)}")
```