```
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 = [3, 5, 2, 9, 12, 5, 23, 23]
depth = math.ceil(math.log(len(A), 2))
print(f"Result = {minimax(A, depth)}")


     Result = 12
```