

144.

1. Write a Program to find both the maximum and minimum values in the array. Implement using any programming language of your choice. Execute your code and provide the maximum and minimum values found.

Input : N= 8, a[] = {5,7,3,4,9,12,6,2}

Output : Min = 2, Max = 12

Code:

```
def find_min_max(arr):
    if not arr:
        return None, None

    min_val = arr[0]
    max_val = arr[0]

    for num in arr[1:]:
        if num < min_val:
            min_val = num
        if num > max_val:
            max_val = num

    return min_val, max_val

N = 8
a = [5, 7, 3, 4, 9, 12, 6, 2]
min_val, max_val = find_min_max(a)
print("Min =", min_val)
print("Max =", max_val)
```

output:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\karth> & C:/Users/karth/AppData/Local/Programs/Python/Python312/python.exe c:/Users/karth/OneDrive/Documents/OriginLab/problem.py
Min = 2
Max = 12
PS C:\Users\karth>
```

Time complexity:

$T(n)=o(n)$