Started on	Thursday, 13 February 2025, 11:46 AM
State	Finished
Completed on	Thursday, 13 February 2025, 12:04 PM
Time taken	17 mins 30 secs
Grade	**100.00** out of 100.00

Question **1**

Correct

Mark 20.00 out of 20.00

Write a python program to implement quick sort on the given float array values.

For example:

Input	Result
5 6.9 8.3 2.1 1.5 6.4	left: [] right: [] left: [] right: [] left: [1.5] right: [6.4] left: [] right: [] left: [1.5, 2.1, 6.4] right: [8.3] [1.5, 2.1, 6.4, 6.9, 8.3]
6 3.1 2.4 5.6 4.3 6.2 7.8	left: [] right: [] left: [] right: [] left: [] right: [] left: [] right: [7.8] left: [4.3] right: [6.2, 7.8] left: [2.4] right: [4.3, 5.6, 6.2, 7.8] [2.4, 3.1, 4.3, 5.6, 6.2, 7.8]

Answer: (penalty regime: 0 %)

```
def quickSort(arr):
    if arr==[]:
        return arr
    pivot=arr[0:1]
    left=quickSort([x for x in arr[1:] if x<pivot[0]])
    right=quickSort([x for x in arr[1:] if x>=pivot[0]])
    print("left: ",left)
    print("right: ",right)
    return left+pivot+right

l=[float(input()) for i in range(int(input()))]
s=quickSort(l)
print(s)
```

	Input	Expected	Got	
✔	5 6.9 8.3 2.1 1.5 6.4	left: [] right: [] left: [] right: [] left: [1.5] right: [6.4] left: [] right: [] left: [1.5, 2.1, 6.4] right: [8.3] [1.5, 2.1, 6.4, 6.9, 8.3]	left: [] right: [] left: [] right: [] left: [1.5] right: [6.4] left: [] right: [] left: [1.5, 2.1, 6.4] right: [8.3] [1.5, 2.1, 6.4, 6.9, 8.3]	✔
✔	6 3.1 2.4 5.6 4.3 6.2 7.8	left: [] right: [] left: [] right: [] left: [] right: [] left: [] right: [7.8] left: [4.3] right: [6.2, 7.8] left: [2.4] right: [4.3, 5.6, 6.2, 7.8] [2.4, 3.1, 4.3, 5.6, 6.2, 7.8]	left: [] right: [] left: [] right: [] left: [] right: [] left: [] right: [7.8] left: [4.3] right: [6.2, 7.8] left: [2.4] right: [4.3, 5.6, 6.2, 7.8] [2.4, 3.1, 4.3, 5.6, 6.2, 7.8]	✔
✔	8 1.2 1.3 4.2 5.3 6.4 7.3 6.8 9.2	left: [] right: [] left: [] right: [] left: [6.8] right: [9.2] left: [] right: [6.8, 7.3, 9.2] left: [] right: [6.4, 6.8, 7.3, 9.2] left: [] right: [5.3, 6.4, 6.8, 7.3, 9.2] left: [] right: [4.2, 5.3, 6.4, 6.8, 7.3, 9.2] left: [] right: [1.3, 4.2, 5.3, 6.4, 6.8, 7.3, 9.2] [1.2, 1.3, 4.2, 5.3, 6.4, 6.8, 7.3, 9.2]	left: [] right: [] left: [] right: [] left: [6.8] right: [9.2] left: [] right: [6.8, 7.3, 9.2] left: [] right: [6.4, 6.8, 7.3, 9.2] left: [] right: [5.3, 6.4, 6.8, 7.3, 9.2] left: [] right: [4.2, 5.3, 6.4, 6.8, 7.3, 9.2] left: [] right: [1.3, 4.2, 5.3, 6.4, 6.8, 7.3, 9.2] [1.2, 1.3, 4.2, 5.3, 6.4, 6.8, 7.3, 9.2]	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **2**

Correct

Mark 20.00 out of 20.00

Write a Python Program Using a recursive function to calculate the sum of a sequence
For example:

Input	Result
20	210
36	666
45	1035

Answer: (penalty regime: 0 %)

```
def recursive_sum(n):
    if n==0:
        return 0
    return n+recursive_sum(n-1)
n=int(input())
print( recursive_sum(n))
```

	Input	Expected	Got	
✔	20	210	210	✔
✔	36	666	666	✔
✔	45	1035	1035	✔
✔	58	1711	1711	✔
✔	65	2145	2145	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **3**

Correct

Mark 20.00 out of 20.00

Write a python program to implement linear search on the given tuple of float values.

note: As the tuple is immutable convert the list to tuple to perform search

For example:

Input	Result
5 3.2 1.5 6.4 7.8 9.5 6.4	Tuple: 6.4 found
6 3.2 1.2 3.4 5.3 6.2 6.8 6.2	Tuple: 6.2 found

Answer: (penalty regime: 0 %)

```
def linear_search():
    n = int(input())
    float_list = []
    for _ in range(n):
        element = float(input())
        float_list.append(element)
    search_value = float(input())
    float_tuple = tuple(float_list)
    print(f"Tuple: {search_value} found" if search_value in float_tuple else f"Tupl
linear_search()
```

	Input	Expected	Got	
✔	5 3.2 1.5 6.4 7.8 9.5 6.4	Tuple: 6.4 found	Tuple: 6.4 found	✔

	Input	Expected	Got	
✔	6 3.2 1.2 3.4 5.3 6.2 6.8 6.2	Tuple: 6.2 found	Tuple: 6.2 found	✔
✔	4 2.1 3.2 6.5 4.5 3.5	Tuple: 3.5 not found	Tuple: 3.5 not found	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **4**

Correct

Mark 20.00 out of 20.00

Write a python program to implement merge sort using iterative approach on the given list of float values.

For example:

Test	Input	Result
Merge_Sort(S)	5 10.2 21.3 3.5 7.8 9.8	The Original array is: [10.2, 21.3, 3.5, 7.8, 9.8] Array after sorting is: [3.5, 7.8, 9.8, 10.2, 21.3]
Merge_Sort(S)	6 20.3 41.2 5.3 6.2 8.1 65.2	The Original array is: [20.3, 41.2, 5.3, 6.2, 8.1, 65.2] Array after sorting is: [5.3, 6.2, 8.1, 20.3, 41.2, 65.2]

Answer: (penalty regime: 0 %)

```
def Merge_Sort(S):
    if(len(S)>1):
        mid = len(S)//2
        left = S[:mid]
        right = S[mid:]
        Merge_Sort(left)
        Merge_Sort(right)
        i = j = k = 0
        while(i < len(left) and j < len(right)):
            if(left[i] < right[j]):
                S[k] = left[i]
                i = i +1
            else:
                S[k] = right[j]
                j = j+1
            k = k+1
        while(i<len(left)):
            S[k] = left[i]
            i = i+1
            k = k+1
        while(j<len(right)):
            S[k] = right[j]
```

	Test	Input	Expected	Got	
✔	Merge_Sort(S)	5 10.2 21.3 3.5 7.8 9.8	The Original array is: [10.2, 21.3, 3.5, 7.8, 9.8] Array after sorting is: [3.5, 7.8, 9.8, 10.2, 21.3]	The Original array is: [10.2, 21.3, 3.5, 7.8, 9.8] Array after sorting is: [3.5, 7.8, 9.8, 10.2, 21.3]	✔

	Test	Input	Expected	Got	
✔	Merge_Sort(S)	6 20.3 41.2 5.3 6.2 8.1 65.2	The Original array is: [20.3, 41.2, 5.3, 6.2, 8.1, 65.2] Array after sorting is: [5.3, 6.2, 8.1, 20.3, 41.2, 65.2]	The Original array is: [20.3, 41.2, 5.3, 6.2, 8.1, 65.2] Array after sorting is: [5.3, 6.2, 8.1, 20.3, 41.2, 65.2]	✔
✔	Merge_Sort(S)	4 2.3 6.1 4.5 96.5	The Original array is: [2.3, 6.1, 4.5, 96.5] Array after sorting is: [2.3, 4.5, 6.1, 96.5]	The Original array is: [2.3, 6.1, 4.5, 96.5] Array after sorting is: [2.3, 4.5, 6.1, 96.5]	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **5**

Correct

Mark 20.00 out of 20.00

Write a python program for a search function with parameter list name and the value to be searched on the given list of float values.

For example:

Test	Input	Result
search(List, n)	5 3.2 6.1 4.5 6.2 8.5 3.2	3.2 Found
search(List, n)	4 3.2 1.5 6.4 7.8 6.1	6.1 Not Found

Answer: (penalty regime: 0 %)

```
def search(List,n):
    for i in List:
        if i==n:
            print(n,"Found")
            break
    else:
        print(n,"Not Found")
s=int(input())
List=[input() for i in range(s)]
n=input()
```

	Test	Input	Expected	Got	
✔	search(List, n)	5 3.2 6.1 4.5 6.2 8.5 3.2	3.2 Found	3.2 Found	✔

	Test	Input	Expected	Got	
✔	search(List, n)	4 3.2 1.5 6.4 7.8 6.1	6.1 Not Found	6.1 Not Found	✔
✔	search(List, n)	7 2.1 3.2 6.5 4.1 5.2 7.1 8.2 9.3	9.3 Not Found	9.3 Not Found	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.