Assignment-3

Question:

Write a program that solves the problem described below.

Given an array consisting of integers where a particular value (let's denote it by *r*) appears multiple times, you need to sort the array such that:

- All integers less than *r* appear first.
- All *r* appear next.
- All integers greater than *r* appear last.

For example:

Input: [5, 2, -1, 0, 3, 0, -7, 0, 8, -2]
Output: [-1, -7, -2, 0, 0, 0, 5, 2, 3, 8].

Solution:

```
                              code.py

def return_r(arr):
    for i in arr:
        cnt = arr.count(i)
        if cnt > 1:
            return i
    return -1

def sort_around_r(arr, r):
    less = [x for x in arr if x < r]
    equal = [x for x in arr if x == r]
    greater = [x for x in arr if x > r]
    return less + equal + greater

arr = list(map(int, input("Enter integers separated by spaces: ").split()))
r = return_r(arr)
sorted_arr = sort_around_r(arr, r)

print(sorted_arr)
```

```
                                input

 Enter integers separated by spaces: 5 2 -1 0 3 0 -7 0 8 -2
```

output

Enter integers separated by spaces: [-1, -7, -2, 0, 0, 0, 5, 2, 3, 8]

```
nitd@nitd-HP-Elite-Tower-800-G9-Desktop-PC:~/CS1051/DSA/Assignment-3$ python code.py
Enter integers separated by spaces: 5 2 -1 0 3 0 -7 0 8 -2
[-1, -7, -2, 0, 0, 0, 5, 2, 3, 8]
```