Name : Yash Srivastava || Section - A || Roll. No - 63

Implementation and Analysis of Radix Sort

```
def radix_sort(nums):
   RADIX = 10
   p = 1
   max_digit = max(nums)

   while p < max_digit:
       buckets = [list() for j in range(RADIX)]
       for i in nums:
           tmp = int((i / p) % RADIX)
           buckets[tmp].append(i)
       a = 0
       for b in range(RADIX):
           buck = buckets[b]
           for i in buck:
               nums[a] = i
               a += 1
       p *= RADIX
   return nums


nums = list(map(int, input("Enter the values for Array
\n").split()))
arr=radix_sort(nums)
print("Sorted Array:")
for i in arr:
   print(i)
```

Input:

60 50 40 10 20 30

Output:

10 20 30 40 50 60

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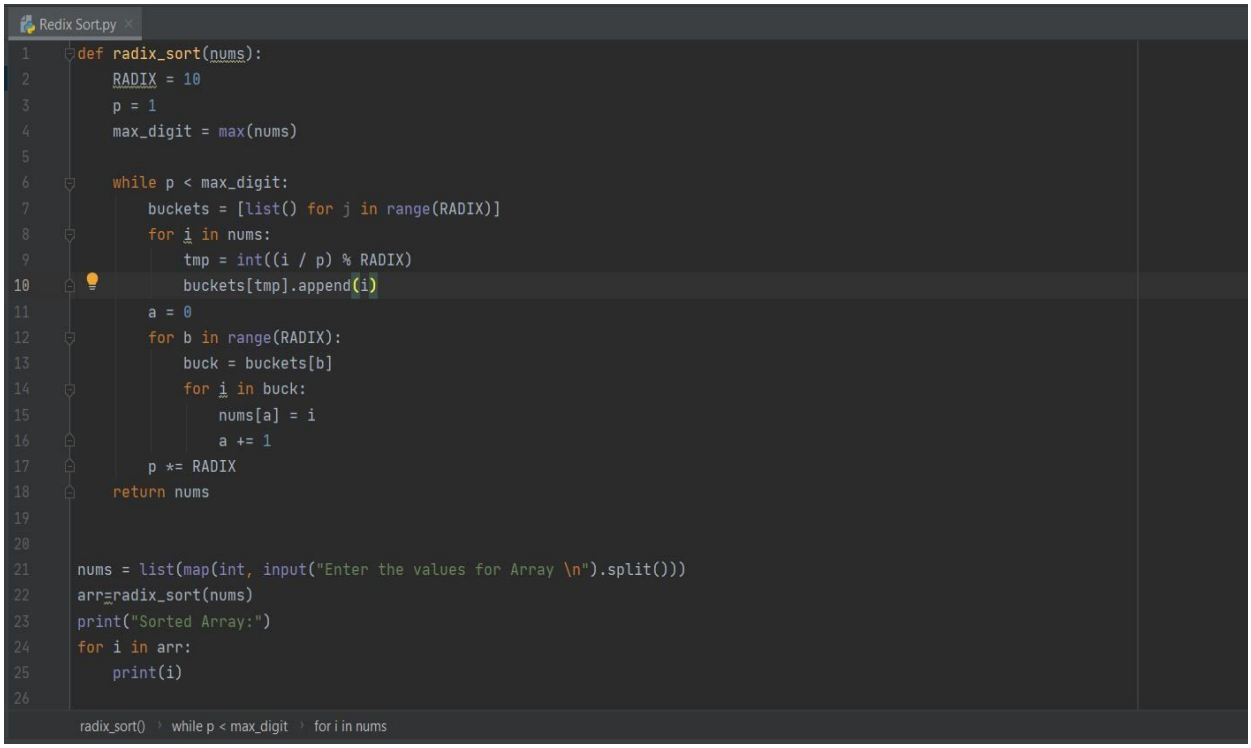
Program:

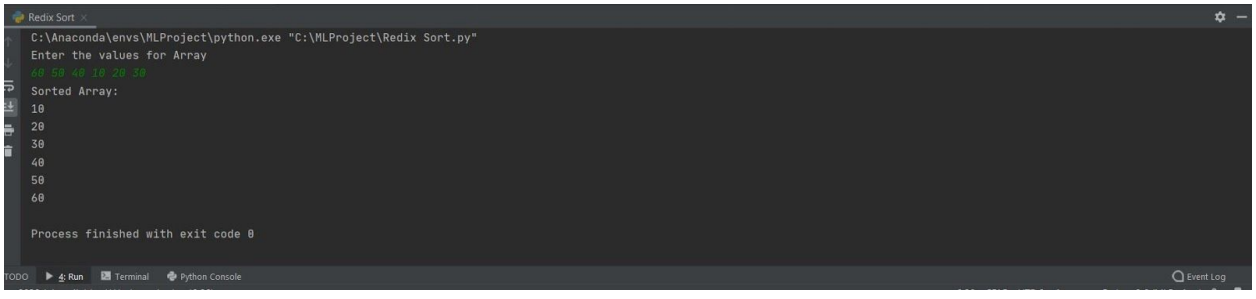


```python
def radix_sort(nums):
    RADIX = 10
    p = 1
    max_digit = max(nums)

    while p < max_digit:
        buckets = [list() for j in range(RADIX)]
        for i in nums:
            tmp = int((i / p) % RADIX)
            buckets[tmp].append(i)
        a = 0
        for b in range(RADIX):
            buck = buckets[b]
            for i in buck:
                nums[a] = i
                a += 1
        p *= RADIX
    return nums


nums = list(map(int, input("Enter the values for Array \n").split()))
arr=radix_sort(nums)
print("Sorted Array:")
for i in arr:
    print(i)
```

Input/Output:



```
C:\Anaconda\envs\MLProject\python.exe "C:\MLProject\Redix Sort.py"
Enter the values for Array
60 50 40 10 20 30
Sorted Array:
10
20
30
40
50
60

Process finished with exit code 0
```