**22AIE203 –**

**Data structures and algorithms -2**

**Lab 6**

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**Code:**

def countingSort(arr, exp1):

    n = len(arr)

    output = [0] \* (n)

    count = [0] \* (10)

    for i in range(0, n):

        index = arr[i] // exp1

        count[index % 10] += 1

    for i in range(1, 10):

        count[i] += count[i - 1]

    i = n - 1

    while i >= 0:

        index = arr[i] // exp1

        output[count[index % 10] - 1] = arr[i]

        count[index % 10] -= 1

        i -= 1

    i = 0

    for i in range(0, len(arr)):

        arr[i] = output[i]

    print("Array after counting sort iteration: ", arr)

def radixSort(arr):

    max1 = max(arr)

    exp = 1

    while max1 / exp >= 1:

        countingSort(arr, exp)

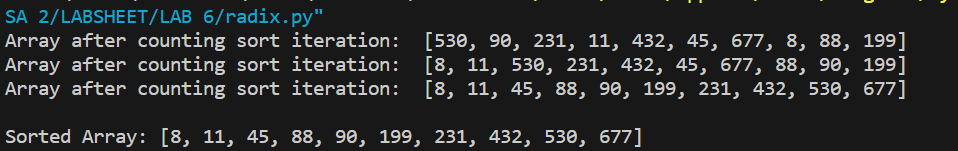
        exp \*= 10

arr = [432, 8, 530, 90, 88, 231, 11, 45, 677, 199]

radixSort(arr)

print("\nSorted Array:", arr)

**Output :**

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