**Practice 05:**

**Implementation of Radix Sort**

Code:

import java.io.\*;

import java.util.\*;

class Solution {

static int getMax(int arr[], int n)

{

int mx = arr[0];

for (int i = 1; i < n; i++)

if (arr[i] > mx)

mx = arr[i];

return mx;

}

static void countSort(int arr[], int n, int exp)

{

int output[] = new int[n];

int i;

int count[] = new int[10];

Arrays.fill(count, 0);

for (i = 0; i < n; i++)

count[(arr[i] / exp) % 10]++;

for (i = 1; i < 10; i++)

count[i] += count[i - 1];

for (i = n - 1; i >= 0; i--) {

output[count[(arr[i] / exp) % 10] - 1] = arr[i];

count[(arr[i] / exp) % 10]--;

}

for (i = 0; i < n; i++)

arr[i] = output[i];

}

static void radixsort(int arr[], int n)

{

int m = getMax(arr, n);

for (int exp = 1; m / exp > 0; exp \*= 10)

countSort(arr, n, exp);

}

static void print(int arr[], int n)

{

for (int i = 0; i < n; i++)

System.out.print(arr[i] + " ");

}

public static void main(String[] args)

{

int arr[] = { 170, 45, 75, 90, 802, 24, 2, 66 };

int n = arr.length;

// Function Call

radixsort(arr, n);

print(arr, n);

}

}