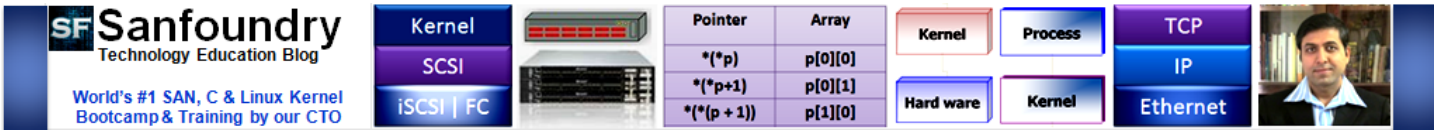

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C++ Program to Implement Radix Sort

This C++ Program demonstrates the implementation of Radix Sort.

Here is source code of the C++ Program to demonstrate the implementation of Radix Sort. The C++ program is successfully compiled and run on a Linux system. The program output is also shown below.

```
/*
 * C++ Program To Implement Radix Sort
 */
#include <iostream>
#include <cstdlib>
using namespace std;
/*
 * get maximum value in arr[]
 */
int getMax(int arr[], int n)
{
    int max = arr[0];
    for (int i = 1; i < n; i++)
        if (arr[i] > max)
            max = arr[i];
    return max;
}
/*
 * count sort of arr[]
 */
void countSort(int arr[], int n, int exp)
{
    int output[n];
    int i, count[10] = {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];
}
/*
 * sorts arr[] of size n using Radix Sort
 */
void radixsort(int arr[], int n)
{
    int m = getMax(arr, n);
    for (int exp = 1; m / exp > 0; exp *= 10)
        countSort(arr, n, exp);
}

```

```
47. /*
48.  * Main
49.  */
50. int main()
51. {
52.     int arr[] = {170, 45, 75, 90, 802, 24, 2, 66};
53.     int n = sizeof(arr)/sizeof(arr[0]);
54.     radixsort(arr, n);
55.     for (int i = 0; i < n; i++)
56.         cout << arr[i] << " ";
57.     return 0;
58. }
```

```
$ g++ radix_sort.cpp
$ a.out

2 24 45 66 75 90 170 802

------------------
(program exited with code: 1)
Press return to continue
```

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