**PROGRAM FOR RADIX SORT:**

#include <iostream>

#include <cstdlib>

using namespace std;

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;

}

}

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];

}

}

void radixsort(int arr[], int n)

{

int m = getMax(arr, n);

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

countSort(arr, n, exp);

}

int main()

{ cout<<"Sorted radix sort is:\n";

int arr[] = {56,47,58,12,38,41,49,35};

int n = sizeof(arr)/sizeof(arr[0]);

radixsort(arr, n);

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

{

cout << arr[i] << "\n";

}

return 0;

}

**OUTPUT:**

Sorted radix sort is:

12

35

38

41

47

49

56

58