NAME SHISHU
REG 2020CA089

Assignment - 6

1. Given two square matrices A and B of size n x n each, find their Strassen's multiplication matrix .

```
#include <stdio.h>
#include <math.h>
#include <stdlib.h>

#define MAX_SIZE 32
void add(int **a, int **b, int size, int **c);
void sub(int **a, int **b, int size, int **c);
void multiply(int **c, int **d, int size, int size2, int **new)
{
if (size == 1)
{
new[0][0] = c[0][0] * d[0][0];
}
else
{
int i, j;
int nsize = size / 2;
int **c11 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
c11[i] = malloc(nsize * sizeof(int));
}
int **c12 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
c12[i] = malloc(nsize * sizeof(int));
}
int **c21 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
c21[i] = malloc(nsize * sizeof(int));
```

```
}
int **c22 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
c22[i] = malloc(nsize * sizeof(int));
}
int **d11 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
d11[i] = malloc(nsize * sizeof(int));
}
int **d12 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
d12[i] = malloc(nsize * sizeof(int));
}
int **d21 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
d21[i] = malloc(nsize * sizeof(int));
}
int **d22 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
d22[i] = malloc(nsize * sizeof(int));
}
int **m1 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
m1[i] = malloc(nsize * sizeof(int));
}
int **m2 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
m2[i] = malloc(nsize * sizeof(int));
}
int **m3 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
m3[i] = malloc(nsize * sizeof(int));
}
int **m4 = malloc(nsize * sizeof(int *));
```

```
for (i = 0; i < nsize; i++)
{
m4[i] = malloc(nsize * sizeof(int));
}
int **m5 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
m5[i] = malloc(nsize * sizeof(int));
}
int **m6 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
m6[i] = malloc(nsize * sizeof(int));
}
int **m7 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
m7[i] = malloc(nsize * sizeof(int));
}
for (i = 0; i < nsize; i++)
{
for (j = 0; j < nsize; j++)
{
c11[i][j] = c[i][j];
c12[i][j] = c[i][j + nsize];
c21[i][j] = c[i + nsize][j];
c22[i][j] = c[i + nsize][j + nsize];
d11[i][j] = d[i][j];
d12[i][j] = d[i][j + nsize];
d21[i][j] = d[i + nsize][j];
d22[i][j] = d[i + nsize][j + nsize];
}
}
int **temp1 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp1[i] = malloc(nsize * sizeof(int));
}
int **temp2 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp2[i] = malloc(nsize * sizeof(int));
```

```
}
add(c11, c22, nsize, temp1);
add(d11, d22, nsize, temp2);
multiply(temp1, temp2, nsize, size, m1);
free(temp1);
free(temp2);
int **temp3 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp3[i] = malloc(nsize * sizeof(int));
}
add(c21, c22, nsize, temp3);
multiply(temp3, d11, nsize, size, m2);
free(temp3);
int **temp4 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp4[i] = malloc(nsize * sizeof(int));
}
sub(d12, d22, nsize, temp4);
multiply(c11, temp4, nsize, size, m3);
free(temp4);
int **temp5 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp5[i] = malloc(nsize * sizeof(int));
}
sub(d21, d11, nsize, temp5);
multiply(c22, temp5, nsize, size, m4);
free(temp5);
int **temp6 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp6[i] = malloc(nsize * sizeof(int));
}
add(c11, c12, nsize, temp6);
multiply(temp6, d22, nsize, size, m5);
free(temp6);
int **temp7 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp7[i] = malloc(nsize * sizeof(int));
```

```
}
int **temp8 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp8[i] = malloc(nsize * sizeof(int));
}
sub(c21, c11, nsize, temp7);
add(d11, d12, nsize, temp8);
multiply(temp7, temp8, nsize, size, m6);
free(temp7);
free(temp8);
int **temp9 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp9[i] = malloc(nsize * sizeof(int));
}
int **temp10 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
temp10[i] = malloc(nsize * sizeof(int));
}
sub(c12, c22, nsize, temp9);
add(d21, d22, nsize, temp10);
multiply(temp9, temp10, nsize, size, m7);
free(temp9);
free(temp10);
int **te1 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te1[i] = malloc(nsize * sizeof(int));
}
int **te2 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te2[i] = malloc(nsize * sizeof(int));
}
int **te3 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te3[i] = malloc(nsize * sizeof(int));
}
int **te4 = malloc(nsize * sizeof(int *));
```

```
for (i = 0; i < nsize; i++)
{
te4[i] = malloc(nsize * sizeof(int));
}
int **te5 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te5[i] = malloc(nsize * sizeof(int));
}
int **te6 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te6[i] = malloc(nsize * sizeof(int));
}
int **te7 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te7[i] = malloc(nsize * sizeof(int));
}
int **te8 = malloc(nsize * sizeof(int *));
for (i = 0; i < nsize; i++)
{
te8[i] = malloc(nsize * sizeof(int));
}
add(m1, m7, nsize, te1);
sub(m4, m5, nsize, te2);
add(te1, te2, nsize, te3); // c11
add(m3, m5, nsize, te4); // c12
add(m2, m4, nsize, te5); // c21
add(m3, m6, nsize, te6);
sub(m1, m2, nsize, te7);
add(te6, te7, nsize, te8); // c22
int a = 0;
int b = 0;
int c = 0;
int d = 0;
int e = 0;
int nsize2 = 2 * nsize;
for (i = 0; i < nsize2; i++)
{
for (j = 0; j < nsize2; j++)
{
```

```
if (j >= 0 && j < nsize && i >= 0 && i < nsize)
{
new[i][j] = te3[i][j];
}
if (j >= nsize && j < nsize2 && i >= 0 && i < nsize)
{
a = j - nsize;
new[i][j] = te4[i][a];
}
if (j >= 0 && j < nsize && i >= nsize && i < nsize2)
{
c = i - nsize;
new[i][j] = te5[c][j];
}
if (j >= nsize && j < nsize2 && i >= nsize && i < nsize2)
{
d = i - nsize;
e = j - nsize;
new[i][j] = te8[d][e];
}
}
}
free(m1);
free(m2);
free(m3);
free(m4);
free(m5);
free(m6);
free(m7);
free(te1);
free(te2);
free(te3);
free(te4);
free(te5);
free(te6);
free(te7);
free(te8);
free(c11);
free(c12);
free(c21);
free(c22);
free(d11);
```

```
free(d12);
free(d21);
free(d22);
}
}
void main()
{
int size, p, itr, itr1, i, j, nsize;
printf("Enter Size of matrix : ");
scanf("%d", &size);
int tempS = size;
if (size & size - 1 != 0)
{
p = log(size) / log(2);
size = pow(2, p + 1);
}
int **a = malloc(size * sizeof(int *));
for (i = 0; i < size; i++)
{
a[i] = malloc(size * sizeof(int));
}
int **b = malloc(size * sizeof(int *));
for (i = 0; i < size; i++)
{
b[i] = malloc(size * sizeof(int));
}
printf("Enter elements of 1st matrix\n");
for (itr = 0; itr < size; itr++)
{
for (itr1 = 0; itr1 < size; itr1++)
{
if (itr >= tempS || itr1 >= tempS)
a[itr][itr1] = 0;
else
scanf("%d", &a[itr][itr1]);
}
}
printf("Enter elements of 2nd matrix\n");
for (itr = 0; itr < size; itr++)
{
for (itr1 = 0; itr1 < size; itr1++)
{
```

```
if (itr >= tempS || itr1 >= tempS)
a[itr][itr1] = 0;
else
scanf("%d", &b[itr][itr1]);
}
}
printf("Resultant matrix is : \n");
int **new = malloc(size * sizeof(int *));
for (i = 0; i < size; i++)
{
new[i] = malloc(size * sizeof(int));
}
multiply(a, b, size, size, new);
if (tempS < size)
size = tempS;
for (i = 0; i < size; i++)
{
for (j = 0; j < size; j++)
{
printf("%d ", new[i][j]);
}
printf("\n");
}
}
void add(int **a, int **b, int size, int **c)
{
int i, j;
for (i = 0; i < size; i++)
{
for (j = 0; j < size; j++)
{
c[i][j] = a[i][j] + b[i][j];
}
}
}
void sub(int **a, int **b, int size, int **c)
{
int i, j;
for (i = 0; i < size; i++)
{
for (j = 0; j < size; j++)
{
```

```
c[i][j] = a[i][j] - b[i][j];
}
}
}
```

Output

2. Write a C program to Sort the N Names in an Alphabetical Order i.e. first name, middle name and then last name

Input:

MANISHA GUPTA

MANOJ KUMAR SAINI

MANSI MAHESHWARI

MANSI PANTHARI

MOHINI

NAMAN MAHESHWARI

NEERAJ SINGH

NITU KUMARI

NITYANAND JHA

PAVAN KUMAR PRAJAPATI

PAWAN KUMAR

PIYUSH BHARDWAJ

PRADEEP KUMAR NAYAK

RAJAT KATHURIYA

RAUNAK KUMAR JHA

RISHABH VATS

RITIKA SINGH

ROHINI MARKAM

RONAK PATIDAR

SAKCHI LAL

SANCHIT SINGH

SAROJ KUMARI

SATISH RANDAWA

SAURABH NEGI

SHANTI MUKATI

SHIVANI CHAURASIA

SHIVENDRA GUPTA

SHIVOM PANDEY

SHUBHANGEE SANJEEVA BAJPEYEE

SIDDHARTH

SIMARPREET KAUR

SOMYA GUPTA

SUSHMITA YADAV

TRILOKI NATH

UDDESHYA KUMAR

UMESH KUMAR

UTTAM SINGH

VARSHA KUMARI

VEERU TEKCHANDANI

VIKASH KUMAR

VISHNUKANT TRIVEDI

VISHWAJEET SINGH

VIVEK SRIVASTAVA

YASH MEHTA

PRAGYA SACHAN

PRASHANT KAUSHIK

PRINCE RAWAT

PRITESH GETHEWALE

PRIYANKA KESHARI

PRIYANSH KUMAR RAI

RAHUL

RAHUL SINGH

RAJAT BORDE

YASH YADAV

YASHVANT PATIDAR

AAYUSHI JAIN

ABHISHEK JADHAV

ABHISHEK KEER

ABHISHEK JOSHI

ABHISHEK RANJAN

ADARSH RAJPUT

AKANSHA SHUKLA

ALKA RANI TIGGA

AMAN SHRIVAS

AMANDEEP AGRAHARI

ANKITA

ANSHU KIRAN KUSHAWAHA

ARADHANA KUSHWAHA

ASHUTOSH TRIPATHI

ATANU SEN

BIPIN KUMAR

DEENDAYAL GOUR

DEEPAK ANJANA

DHEERAJ KASHYAP

DWARKESH KUMBHAKAR

GAGAN KUMAR GOYAL

GOPAL AGRAHARI

HERA SAMI

HIMANSHU PRASAD

JAY KUMAR SUTRAKAR

JYOTI PRAJAPATI

KAUSTUBH BULEY

KM AKASHRA UPADHYAY

KRATIKA PARMAR

LAXMI NARAYAN

LIZA SINGLA

M ARSHAD

Output:

AAYUSHI JAIN

ABHISHEK JADHAV

ABHISHEK JOSHI

ABHISHEK KEER

ABHISHEK RANJAN

ADARSH RAJPUT

AKANSHA SHUKLA

ALKA RANI TIGGA

AMAN SHRIVAS

AMANDEEP AGRAHARI

ANKITA

ANSHU KIRAN KUSHAWAHA

ARADHANA KUSHWAHA

ASHUTOSH TRIPATHI

ATANU SEN

BIPIN KUMAR

DEENDAYAL GOUR

DEEPAK ANJANA

DHEERAJ KASHYAP

DWARKESH KUMBHAKAR

GAGAN KUMAR GOYAL

GOPAL AGRAHARI

HERA SAMI

HIMANSHU PRASAD

JAY KUMAR SUTRAKAR

JYOTI PRAJAPATI

KAUSTUBH BULEY

KM AKASHRA UPADHYAY

KRATIKA PARMAR

LAXMI NARAYAN

LIZA SINGLA

M ARSHAD

MANISHA GUPTA

MANOJ KUMAR SAINI

MANSI MAHESHWARI

MANSI PANTHARI

MOHINI

NAMAN MAHESHWARI

NEERAJ SINGH

NITU KUMARI

NITYANAND JHA

PAVAN KUMAR PRAJAPATI

PAWAN KUMAR

PIYUSH BHARDWAJ

PRADEEP KUMAR NAYAK

PRAGYA SACHAN

PRASHANT KAUSHIK

PRINCE RAWAT

PRITESH GETHEWALE

PRIYANKA KESHARI

PRIYANSH KUMAR RAI

RAHUL

RAHUL SINGH

RAJAT BORDE

RAJAT KATHURIYA

RAUNAK KUMAR JHA

RISHABH VATS

RITIKA SINGH

ROHINI MARKAM

RONAK PATIDAR

SAKCHI LAL

SANCHIT SINGH

SAROJ KUMARI

SATISH RANDAWA

SAURABH NEGI

SHANTI MUKATI

SHIVANI CHAURASIA

SHIVENDRA GUPTA

SHIVOM PANDEY

SHUBHANGEE SANJEEVA BAJPEYEE

SIDDHARTH

SIMARPREET KAUR

SOMYA GUPTA

SUSHMITA YADAV

TRILOKI NATH

UDDESHYA KUMAR

UMESH KUMAR

UTTAM SINGH

VARSHA KUMARI

VEERU TEKCHANDANI

VIKASH KUMAR

VISHNUKANT TRIVEDI

VISHWAJEET SINGH

VIVEK SRIVASTAVA

YASH MEHTA

YASH YADAV

YASHVANT PATIDAR

AAYUSHI JAIN

ABHISHEK JADHAV

ABHISHEK JOSHI

ABHISHEK KEER

ABHISHEK RANJAN

ADARSH RAJPUT

AKANSHA SHUKLA

ALKA RANI TIGGA

AMAN SHRIVAS

AMANDEEP AGRAHARI

ANKITA

ANSHU KIRAN KUSHAWAHA

ARADHANA KUSHWAHA

ASHUTOSH TRIPATHI

ATANU SEN

BIPIN KUMAR

DEENDAYAL GOUR

DEEPAK ANJANA

DHEERAJ KASHYAP

DWARKESH KUMBHAKAR

GAGAN KUMAR GOYAL

GOPAL AGRAHARI

HERA SAMI

HIMANSHU PRASAD

JAY KUMAR SUTRAKAR

JYOTI PRAJAPATI

KAUSTUBH BULEY

KM AKASHRA UPADHYAY

KRATIKA PARMAR

LAXMI NARAYAN

LIZA SINGLA

M ARSHAD

MANISHA GUPTA

MANOJ KUMAR SAINI

MANSI MAHESHWARI

MANSI PANTHARI

MOHINI

NAMAN MAHESHWARI

NEERAJ SINGH

NITU KUMARI

NITYANAND JHA

PAVAN KUMAR PRAJAPATI

PAWAN KUMAR

PIYUSH BHARDWAJ

PRADEEP KUMAR NAYAK

PRAGYA SACHAN

PRASHANT KAUSHIK

PRINCE RAWAT

PRITESH GETHEWALE

PRIYANKA KESHARI

PRIYANSH KUMAR RAI

RAHUL

RAHUL SINGH

RAJAT BORDE

RAJAT KATHURIYA

RAUNAK KUMAR JHA

RISHABH VATS

RITIKA SINGH

ROHINI MARKAM

RONAK PATIDAR

SAKCHI LAL

SANCHIT SINGH

SAROJ KUMARI

SATISH RANDAWA

SAURABH NEGI

SHANTI MUKATI

SHIVANI CHAURASIA

SHIVENDRA GUPTA

SHIVOM PANDEY

SHUBHANGEE SANJEEVA BAJPEYEE

SIDDHARTH

SIMARPREET KAUR

SOMYA GUPTA

SUSHMITA YADAV

TRILOKI NATH

UDDESHYA KUMAR

UMESH KUMAR

UTTAM SINGH

VARSHA KUMARI

VEERU TEKCHANDANI

VIKASH KUMAR

VISHNUKANT TRIVEDI

VISHWAJEET SINGH

VIVEK SRIVASTAVA

YASH MEHTA

YASH YADAV

YASHVANT PATIDAR

```
#include <cstdio>
#include <string.h>
#include <fstream>
using std::string;
size_t getMax(string arr[], int n)
{
size_t max = arr[0].size();
for (int i = 1; i < n; i++)
{
if (arr[i].size() > max)
max = arr[i].size();
}
return max;
}
void countSort(string a[], int size, size_t k)
{
string *b = NULL;
int *c = NULL;
b = new string[size];
c = new int[257];
for (int i = 0; i < 257; i++)
{
c[i] = 0;
// cout << c[i] << "\n";
}
```

```
for (int j = 0; j < size; j++)
{
c[k < a[j].size() ? (int)(unsigned char)a[j][k] + 1 : 0]++; // a[j]is a string
// cout << c[a[j]] << endl;
}
for (int f = 1; f < 257; f++)
{
c[f] += c[f - 1];
}
for (int r = size - 1; r >= 0; r--)
{
b[c[k < a[r].size() ? (int)(unsigned char)a[r][k] + 1 : 0] - 1] =
a[r];
c[k < a[r].size() ? (int)(unsigned char)a[r][k] + 1 : 0]--;
}
for (int l = 0; l < size; l++)
{
a[l] = b[l];
}
// avoid memory leak
delete[] b;
delete[] c;
}
void radixSort(string b[], int r)
{
size_t max = getMax(b, r);
for (size_t digit = max; digit > 0; digit--)
{
// size_t is unsigned, so avoid using digit >= 0, which is alwaystrue
countSort(b, r, digit - 1);
}
}
int main(void)
{
// READ FROM FILE
string data[87];
string line;
int i = 0;
std::ifstream input_file("data.txt");
while (getline(input_file, line))
{
data[i] = line;
```

```
i++;
}
puts("Before sorting: ");
for (size_t i = 0; i < sizeof(data) / sizeof(data[0]); i++)
{
printf(" %s\n", data[i].c_str());
}
radixSort(data, (int)(sizeof(data) / sizeof(data[0])));
puts("After sorting:");
for (size_t i = 0; i < sizeof(data) / sizeof(data[0]); i++)
{
printf(" %s\n", data[i].c_str());
}
return 0;
}
```

Output

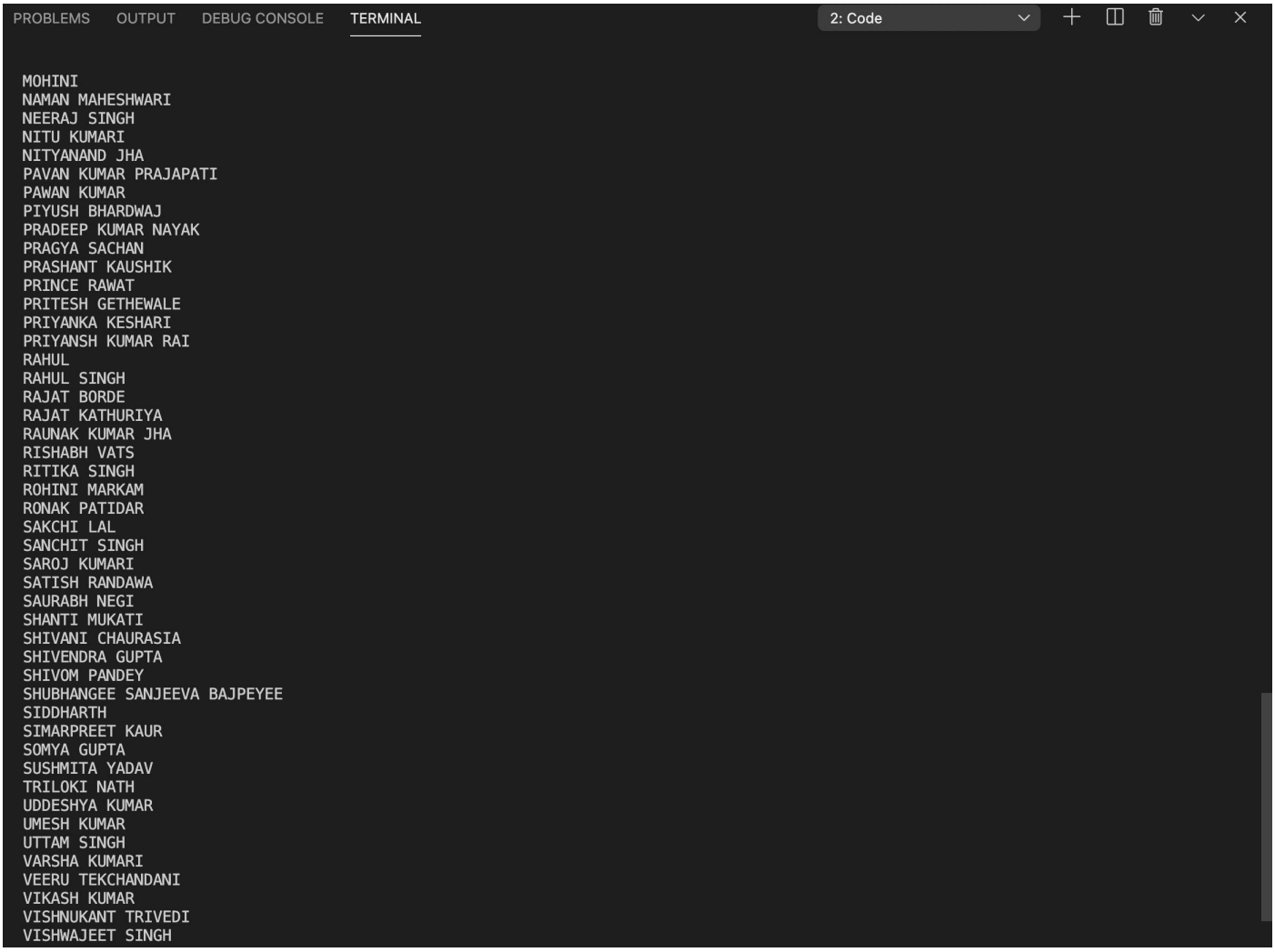
```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL                                  2: Code

cd "/Users/surajprasad/Desktop/code/" && g++ ques2.cpp -o ques2 && "/Users/surajprasad/Desktop/code/"ques2
surajprasad@Surajs-MacBook-Air ~ % cd "/Users/surajprasad/Desktop/code/" && g++ ques2.cpp -o ques2 && "/Users/surajprasad/Desktop/co
de/"ques2
Before sorting:
 MANISHA GUPTA
 MANOJ KUMAR SAINI
 MANSI MAHESHWARI
 MANSI PANTHARI
 MOHINI
 NAMAN MAHESHWARI
 NEERAJ SINGH
 NITU KUMARI
 NITYANAND JHA
 PAVAN KUMAR PRAJAPATI
 PAWAN KUMAR
 PIYUSH BHARDWAJ
 PRADEEP KUMAR NAYAK
 RAJAT KATHURIYA
 RAUNAK KUMAR JHA
 RISHABH VATS
 RITIKA SINGH
 ROHINI MARKAM
 RONAK PATIDAR
 SAKCHI LAL
 SANCHIT SINGH
 SAROJ KUMARI
 SATISH RANDAWA
 SAURABH NEGI
 SHANTI MUKATI
 SHIVANI CHAURASIA
 SHIVENDRA GUPTA
 SHIVOM PANDEY
 SHUBHANGEE SANJEEVA BAJPEYEE
 SIDDHARTH
 SIMARPREET KAUR
 SOMYA GUPTA
 SUSHMITA YADAV
 TRILOKI NATH
 UDDESHYA KUMAR
 UMESH KUMAR
 UTTAM SINGH
 VARSHA KUMARI
 VEERU TEKCHANDANI
 VIKASH KUMAR
 VISHNUKANT TRIVEDI
 VISHWAJEET SINGH
 VIVEK SRIVASTAVA
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 2: Code

```
 YASH MEHTA
 PRAGYA SACHAN
 PRASHANT KAUSHIK
 PRINCE RAWAT
 PRITESH GETHEWALE
 PRIYANKA KESHARI
 PRIYANSH KUMAR RAI
 RAHUL
 RAHUL SINGH
 RAJAT BORDE
 YASH YADAV
 YASHVANT PATIDAR
 AAYUSHI JAIN
 ABHISHEK JADHAV
 ABHISHEK KEER
 ABHISHEK JOSHI
 ABHISHEK RANJAN
 ADARSH RAJPUT
 AKANSHA SHUKLA
 ALKA RANI TIGGA
 AMAN SHRIVAS
 AMANDEEP AGRAHARI
 ANKITA
 ANSHU KIRAN KUSHAWAHA
 ARADHANA KUSHWAHA
 ASHUTOSH TRIPATHI
 ATANU SEN
 BIPIN KUMAR
 DEENDAYAL GOUR
 DEEPAK ANJANA
 DHEERAJ KASHYAP
 DWARKESH KUMBHAKAR
 GAGAN KUMAR GOYAL
 GOPAL AGRAHARI
 HERA SAMI
 HIMANSHU PRASAD
 JAY KUMAR SUTRAKAR
 JYOTI PRAJAPATI
 KAUSTUBH BULEY
 KM AKASHRA UPADHYAY
 KRATIKA PARMAR
 LAXMI NARAYAN
 LIZA SINGLA
 M ARSHAD
After sorting:
 AAYUSHI JAIN
 ABHISHEK JADHAV
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 2: Code

```
After sorting:
 AAYUSHI JAIN
 ABHISHEK JADHAV
 ABHISHEK JOSHI
 ABHISHEK KEER
 ABHISHEK RANJAN
 ADARSH RAJPUT
 AKANSHA SHUKLA
 ALKA RANI TIGGA
 AMAN SHRIVAS
 AMANDEEP AGRAHARI
 ANKITA
 ANSHU KIRAN KUSHAWAHA
 ARADHANA KUSHWAHA
 ASHUTOSH TRIPATHI
 ATANU SEN
 BIPIN KUMAR
 DEENDAYAL GOUR
 DEEPAK ANJANA
 DHEERAJ KASHYAP
 DWARKESH KUMBHAKAR
 GAGAN KUMAR GOYAL
 GOPAL AGRAHARI
 HERA SAMI
 HIMANSHU PRASAD
 JAY KUMAR SUTRAKAR
 JYOTI PRAJAPATI
 KAUSTUBH BULEY
 KM AKASHRA UPADHYAY
 KRATIKA PARMAR
 LAXMI NARAYAN
 LIZA SINGLA
 M ARSHAD
 MANISHA GUPTA
 MANOJ KUMAR SAINI
 MANSI MAHESHWARI
 MANSI PANTHARI
```


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
2: Code
MOHINI
NAMAN MAHESHWARI
NEERAJ SINGH
NITU KUMARI
NITYANAND JHA
PAVAN KUMAR PRAJAPATI
PAWAN KUMAR
PIYUSH BHARDWAJ
PRADEEP KUMAR NAYAK
PRAGYA SACHAN
PRASHANT KAUSHIK
PRINCE RAWAT
PRITESH GETHEWALE
PRIYANKA KESHARI
PRIYANSH KUMAR RAI
RAHUL
RAHUL SINGH
RAJAT BORDE
RAJAT KATHURIYA
RAUNAK KUMAR JHA
RISHABH VATS
RITIKA SINGH
ROHINI MARKAM
RONAK PATIDAR
SAKCHI LAL
SANCHIT SINGH
SAROJ KUMARI
SATISH RANDAWA
SAURABH NEGI
SHANTI MUKATI
SHIVANI CHAURASIA
SHIVENDRA GUPTA
SHIVOM PANDEY
SHUBHANGEE SANJEEVA BAJPEYEE
SIDDHARTH
SIMARPREET KAUR
SOMYA GUPTA
SUSHMITA YADAV
TRILOKI NATH
UDDESHYA KUMAR
UMESH KUMAR
UTTAM SINGH
VARSHA KUMARI
VEERU TEKCHANDANI
VIKASH KUMAR
VISHNUKANT TRIVEDI
VISHWAJEET SINGH


VISHNUKANT TRIVEDI
VISHWAJEET SINGH
VIVEK SRIVASTAVA
YASH MEHTA
YASH YADAV
YASHVANT PATIDAR
surajprasad@Surajs-MacBook-Air code %