

2D array with random

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

int main(){
    int a[3][4];
    int sum1[3] = {0,0,0};
    int sum2[4] = {0,0,0,0};
    srand(time(NULL));
    for(int x = 0; x < 3;x++){
        for (int y = 0; y < 4;y++){
            a[x][y] = rand() % 10;
            printf ("%d ",a[x][y]);
        }
        printf ("\n ");
    }
    int count1 = 0;
    for(int ax = 0; ax < 3;ax++){
        for (int ay = 0; ay < 4;ay++){
            sum1[count1] += a[ax]
[ay];
        }
        count1++;
    }
    int count2 = 0;
    for(int bx = 0;bx < 4;bx++){
        for (int by = 0;by < 3; by++){
            sum2[count2] += a[by]
[bx];
        }
        count2++;
    }
    printf ("Sum of rows:");
    for (int c = 0;c < 3;c++){
        printf (" %d", sum1[c]);
    }
    printf ("\nSum of column s:");
    for (int d = 0;d < 4;d++){
        printf (" %d", sum2[d]);
```

2D array with random (cont)

```
> }
}
```

Lab1 wk10

```
#include <stdio.h>
void check(int a,float b, double c){
    printf ("The integer is %d",a);
    printf ("\nThe floating point number is
%f",b);
    printf ("\nThe double precision number is
%lf",c);
}
int main(){
    int a;
    float b;
    double c;
    printf ("Enter an integer: ");
    scanf( " %d", &a);
    printf ("Enter a floating point number:
");
    scanf( " %f", &b);
    printf ("Enter a double precision number
");
    scanf( " %lf ",&c);
    check( a,b,c);
}
Enter an integer: 3
Enter a floating point number: 4.5
Enter a double precision number 5.3456
The integer is 3
The floating point number is 4.500000
The double precision number is 5.345600
```

bonuslab wk10(find distance)

```
#include <stdio.h>
#include <math.h>
double euc_dist( double a,double b,double
c,double d){
    double x = sqrt(pow( c-a ,2) +pow(d -
b,2));
    return x;
}
int main(){
```

bonuslab wk10(find distance) (cont)

```
> double a,b,c,d,z;
printf("Please enter a value for x1: ");
scanf("%lf",&a);
printf("Please enter a value for y1: ");
scanf("%lf",&b);
printf("Please enter a value for x2: ");
scanf("%lf",&c);
printf("Please enter a value for y2: ");
scanf("%lf",&d);
z = euc_dist(a,b,c,d);
printf("The distance between the points is: %lf",z);
}
```

Please enter a value for x1: 20.5
Please enter a value for y1: 55
Please enter a value for x2: 60
Please enter a value for y2: 40.7
The distance between the points is: 42.008809

lab1 wk11

```
#include <stdio.h>
#define USD 32.86;
#define JPY 0.29;
float THB2USD(float THB){
    float x = THB / USD;
    return x;
}
float THB2JPY(float THB){
    float y = THB / JPY;
    return y;
}
void main(){
    float THB = 5000;
    printf("%.2f THB = %.2f USD\n", THB, THB2USD(THB));
    printf("%.2f THB = %.2f JPY", THB, THB2JPY(THB));
}
```

5000.00 THB = 152.16 USD
5000.00 THB = 17241.38 JPY

Extralab#6

```
#include <stdio.h>
void findMinMax(int array[],int nElems,int max,int min);
int main(){
    int nElems, min_, max_;
    printf("input n: ");
    scanf("%d", &nElems);
    int array[nElems];
    printf("input array of size n: ");
    for(int i = 0; i < nElems; i++){
        scanf("%d", &array[i]);
    }
    findMinMax(array, nElems, &max_, &min_);
    printf("min is %d max is %d", min_, max_);
    return 0;
}
void findMinMax(int array[],int nElems,int max,int min){
    *min = array[0];
    *max = array[0];
    for (int i = 1; i < nElems; i++){
        if (*min > array[i]){
            *min = array[i];
        }
        if (*max < array[i]){
            *max = array[i];
        }
    }
}
```

input n: 6
input array of size n: 1 2 3 4 5 6
min is 1 max is 6

swap using pointer

```
#include<stdio.h>
void swap(int *a, int *b);
void swap(int x, int y);
int a,b,c,A,B,*C;
int main(){
```



swap using pointer (cont)

```
> printf("Enter 3 integers: ");
scanf("%d %d %d",&a,&b,&c);
A=&a;B=&b;C=&c;
sort_nums(A,B,C);
printf("Sorted integers: %d %d %d",A,B,*C);
}

void sort_nums(int a, int b, int *c){
    int loop = 1;
    while (loop == 1){
        if (a < b){
            swap(a, b);
        }
        if (b < c){
            swap(b, c);
        }
        if (a >= b && b >= c && a >= c){
            loop = 0;
        }
    }
}

void swap(int x, int y){
    int temp;
    temp = *x;
    *x = y;
    *y = temp;
}

Enter 3 integers: 2 4 5
Sorted integers: 5 4 2
```

string(compare)

```
#include <stdio.h>
#include <string.h>
struct person{
    char Name[2][81];
    char Phone[2][11];
} contact;
int main(){
```

string(compare) (cont)

```
> printf("Enter Name#1: ");
scanf("%s",contact.Name[0]);
printf("Enter phone#1: ");
scanf("%s",contact.Phone[0]);
printf("Enter Name#2: ");
scanf("%s",contact.Name[1]);
printf("Enter phone#2: ");
scanf("%s",contact.Phone[1]);
printf("Sort by: name\n");
if (strcmp(contact.Name[0],contact.Name[1]) < 0){ // first one
is less than second one
    printf("%s ",contact.Name[0]);
    printf("%s",contact.Phone[0]);
    printf("\n%s ",contact.Name[1]);
    printf("%s",contact.Phone[1]);
}
else if (strcmp(contact.Name[0],contact.Name[1]) > 0){ // first
one is greater than second one
    printf("%s ",contact.Name[1]);
    printf("%s",contact.Phone[1]);
    printf("\n%s ",contact.Name[0]);
    printf("%s",contact.Phone[0]);
}
else{ // == 0 first one is equal to last one
    printf("%s ",contact.Name[0]);
    printf("%s",contact.Phone[0]);
    printf("\n%s ",contact.Name[1]);
    printf("%s",contact.Phone[1]);
}
printf("\n");
printf("Sort by: phone\n");
if (strcmp(contact.Phone[0],contact.Phone[1]) < 0){
    printf("%s ",contact.Name[0]);
    printf("%s",contact.Phone[0]);
    printf("\n%s ",contact.Name[1]);
    printf("%s",contact.Phone[1]);
}
else if (strcmp(contact.Phone[0],contact.Phone[1]) > 0){
```



By phon

cheatography.com/phon/

Published 12th December, 2018.

Last updated 12th December, 2018.

Page 3 of 13.

Sponsored by **ApolloPad.com**

Everyone has a novel in them. Finish Yours!

<https://apollopad.com>

string(compare) (cont)

```
> printf("%s ",contact.Name[1]);
printf("%s",contact.Phone[1]);
printf("\n%s ",contact.Name[0]);
printf("%s",contact.Phone[0]);
}
else{
printf("%s ",contact.Name[0]);
printf("%s",contact.Phone[0]);
printf("\n%s ",contact.Name[1]);
printf("%s",contact.Phone[1]);
}
}
```

Enter Name#1: Alice
 Enter phone#1: 0819998888
 Enter Name#2: Mallory
 Enter phone#2: 0810001111
 Sort by: name
 Alice 0819998888
 Mallory 0810001111
 Sort by: phone
 Mallory 0810001111
 Alice 0819998888

Extralab#4

```
#include<stdio.h>
int main()
{
    int n,i=0, cou nt=0;
    char a[80], b[8 0],c;
    pri ntf ("First string :");
    c = getchar();
    while ((i<80) && (c != '\n')) {a[i] = c;
i++; c = getcha r();}
    a[i] = '\0';
    n = i;
    pri ntf ("Second string :");
    i=0;
    c = getchar();
```

Extralab#4 (cont)

```
> while ((i<80) && (c != '\n')){b[i] = c; i++; c = getchar();}
b[i] = '\0';
for( i=n-1 ; i>=0 ;i-- )
{
    if(a[i]+32 != b[i] && a[i] != b[i]+32 && a[i] != b[i]) count++;
}
printf("%d",count);
return 0;
}
```

First string:hallo
 Second string:hello
 1

File I/O

```
#include <stdio.h>
#include <st dli b.h>
int calcul ate Age(int year);
struct birthdate{
    int day;
    int month;
    int year;
};
struct student{
    int id;
    char name[100];
    struct birthdate inform ation;
};
struct student studen t_i nfor;
int main(){
    int id, day, month, year, age;
    char name[80];
    FILE *inFile;
    inFile = fopen( " stu den t.t xt", " r");
    if (inFile == NULL) {
        pri ntf ("Failed to open the
file. \n");
        exi t(1);
    }
```

File I/O (cont)

```
> while (fscanf(inFile, "%d %s %d %d %d", &student_infor.id, &student_infor.name, &student_infor.information.day, &student_infor.information.month, &student_infor.information.year) != EOF){
    printf("Read %d %s %d %d %d\n", student_infor.id, student_infor.name, student_infor.information.day, student_infor.information.month, student_infor.information.year);
    // copy the data into the Student struct
}
age = calculateAge(student_infor.information.year);
fclose(inFile);
inFile = fopen("student_age.txt", "w");
fprintf(inFile, "Student ID: %d", student_infor.id);
fprintf(inFile, "\nName: %s", student_infor.name);
fprintf(inFile, "\nBirthdate: %d/%d/%d", student_infor.information.day, student_infor.information.month, student_infor.information.year);
fprintf(inFile, "\nAge: %d", age);
fclose(inFile);
}
int calculateAge(int year){
    int x = 2018 - year;
    return x;
}
Read 31257 Alice 14 12 1993
```

File I/O #2

```
#include <stdio.h>
#include <stdlib.h>
float covert (float x);
int main(){
    float f[6];
    float c[6];
    FILE *Data;
    Data = fopen( " f.t xt", " r");
    if (Data == NULL){
        printf ("ER ROR ");
        exit(1);
    }
    for (int x = 0; x < 6; x++){
        fscanf (Da ta, " %f", &f [x]);
```

File I/O #2 (cont)

```
> }
fclose(Data);
Data = fopen("c.txt", "w");
for (int x = 0; x < 6; x++){
    fprintf(Data, "%f", covert(f[x]));
    if (x < 5){
        fprintf(Data, "\n");
    }
}
fclose(Data);
printf("finished");
}
float covert(float x){
    float z;
    z = ((x - 32.0) * (1.8));
    return z;
}
```

Extralab#2

```
#include <stdio.h>
int main() {
    int x, a, b, c;
    printf ("a");
    scanf( " %d", &x);
    a = x / 2; int ax = 0; int ay = a - 2; int bx = x - 2; int by = 1;
    for (int y = 0; y < x/2; y++){
        for(int alpha = 0; alpha < ax; alpha++) {
            printf ("1");
        }
        if (ax != a){
            printf ("2");
        }
        for (int beta = bx; beta > 0; beta--){
            printf ("1");
        }
        if (ax != a){
            printf ("2");
        }
    }
}
```

Extralab#2 (cont)

```
> }
for(int alpha = 0;alpha < ax;alpha++){
    printf("1");
}
bx -= 2;
ax++;
printf("\n");
}
for (int alpha = 0;alpha < a;alpha++){
    printf("1");
}
printf("3");
for (int alpha = 0;alpha < a;alpha++){
    printf("1");
}
printf("\n");
for (int y = 0;y < x/2;y++){
    for(int alpha = ay;alpha >= 0;alpha--){
        printf("1");
    }
    if (ay != a){
        printf("2");
    }
    for (int beta = 0;beta < by;beta++ ){
        printf("1");
    }
    if (ay != a){
        printf("2");
    }
    for(int alpha = ay;alpha >= 0;alpha--){
        printf("1");
    }
    by += 2;
    ay--;
    printf("\n");
}
```

Extralab#2 (cont)

```
>}
a5
21112
12121
11311
12121
21112
```

Extralab#8

```
#include<stdio.h>
int main()
{
    int age_12 ,sum=0 ,i, j=0 ,a[ 1000];
    typedef struct TitleNameAge
    {
        char tt[100];
        char name[80];
        int age;
    }data;
    data A;
    printf ("Input your title: ");
    scanf( " %s", &A.tt);
    printf ("Input your Name:");
    scanf( " %s", &A.name);
    printf ("Input your Age:");
    scanf( " %d", &A.age);
    age_12 = A.age - 12;
    if( age_12 >12) age_12 = 12;
    printf ("Hello ");
    if( A.age >= 20 ) printf ("%s.",A.tt);
    printf ("%s " ,A.name);
    for( i=1 ; i<= A.age ; i++) {sum+=i;}
    printf ("\nSum of the number 1 to Age:
%d\n",sum);
    for( i=1 ; i<A.age ; i++)
    {
        if( i%3 == 0 || i%5 == 0 )
        {
```

Extralab#8 (cont)

```
>      a[j] = i;
      j++;
    }
  }
  a[j] = '\0';
  int n=j;
  printf("The multiples of 3 or 5: ");
  for( j=0 ; j<=n-1 ; j++)
  {
    if(j!=n-1)
      printf("%d,",a[j]);
    else printf("%d",a[j]);
  }
  for(i=1 ; i<13 ; i++)
  {
    printf("\n%dx%d = %d",age_12,i,age_12*i);
  }
  return 0;
}
```

Input your title:mr
 Input your Name:phon
 Input your Age:16
 Hello phon
 Sum of the number 1 to Age: 136
 The multiples of 3 or 5: 3,5,6,9,10,12,15
 4x1 = 4
 4x2 = 8
 4x3 = 12
 4x4 = 16
 4x5 = 20
 4x6 = 24
 4x7 = 28
 4x8 = 32
 4x9 = 36
 4x10 = 40
 4x11 = 44

Extralab#8 (cont)

> 4x12 = 48

Extralab#7

```
#include<stdio.h>
int main()
{
    int i=0;
    char a[80],c;
    printf ("Input your number: ");
    c = getchar();
    while( i<80 && c != '\n')
    {
        a[i] = c;
        i++;
        c = getchar();
    }
    a[i] = '\0';
    for( i=i-1 ; i>=0 ; i--) printf -
("%c " ,a[i]);
    return 0;
}
```

Input your number: 12345
 54321

Extralab#5

```
#include<stdio.h>
int main()
{
    int N,i=0, sum=0;
    printf ("SIZE: ");
    scanf( " %d", &N);
    int a[N],b[N];
    printf ("Please enter number such as a=
[a1, a2,...]: ");
    for(i=0 ; i<N ;i++) { scanf( " %d", &a -
[i]); }
    printf ("Please enter number such as b=
[b1, b2,...]: ");
    for(i=0 ; i<N ;i++) { scanf( " %d", &b -
[i]); }
    for(i=0 ; i<N ;i++) { sum += a[i]*b[i]; }
    printf ("Do t-p roduct = %d", sum);
}
```

Extralab#5 (cont)

```
> return 0;
}
SIZE: 4
Please enter number such as a=[a1,a2,..]: 1 2 3 4
Please enter number such as b=[b1,b2,..]: 1 2 3 4
Dot-product = 30
```

GCD without loop

```
#include <stdio.h>
int gcd(int a, int b)
{
    if (b == 0)
        return a;
    return gcd(b, a % b);
}
int main()
{
    int a,b;
    printf ("Input two number: ");
    scanf ( " %d %d",&a, &b);
    printf ("The GCD of %d and %d is %d", -
a,b ,gcd(a ,b));
    return 0;
}
```

Extralab#3

```
#include <stdio.h>
#define pie 3.14
float Circumferencefunction(int a,float *b);
float Areafunction(int a,float *b);
int main(){
    float a,Circumference,a ,b;int x;
    Area = &a;
    Circumference = &b;
    scanf ( " %d", &x);
    Circumferencefunction (x, Circumference);
    Areafunction (x, Area);
    printf ("%2f %2f\n",Circumference,Area);
}
```

Extralab#3 (cont)

```
>}
float Circumferencefunction(int a,float *b){
    b = 2pie * a;
}
float Areafunction(int a,float *b){
    b = pie a * a;
}
3
18.84 28.26
```

Extralab#1

```
#include<stdio.h>
int main()
{
    int a[32] = {0,1},i;
    for(i=1 ; i<31 ; i++)
    {
        a[i+1] = a[i] + a[i-1];
        printf ("%d " ,a[ i-1]);
        if(i != 30)
            printf (",");
    }
    return 0;
}
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987
1597 2584 4181 6765 10946 17711 28657
46368 75025 121393 196418 317811 514229
```

Monster game(evolved one)

```
#include <stdio.h>
#include <string.h>
struct monster{
    char name[80];
    int attack;
    int hp;
}monsters[3];
struct monster monsters[3] = {"bone",20,50},
{"snot",30,100},{"plague",50,70}};
int PlayerHP = 100;
```

Monster game(evolved one) (cont)

```
> int *current_playerHP;
int *current_monsterHP;
int main(){
    char choice;
    int dmg;
    int Remaining;
    current_playerHP = &PlayerHP;
    int loop = 1;
    char choose[7] = {0};
    while (loop == 1){
        printf("\nEnter the 1st character of Monster's name: ");
        scanf("%s",&choose);
        printf("Enter the attack power from 1 to 100: ");
        scanf("%d",&dmg);
        if(strcmp(choose,monsters[0].name) == 0){
            printf("Monster: %s",monsters[0].name);
            current_monsterHP = &monsters[0].hp;
            current_playerHP = &PlayerHP;
            if (dmg > *current_monsterHP){
                *current_monsterHP = 0;
                printf("\nHP: %d",*current_monsterHP);
                printf("\nYour HP: %d",*current_playerHP);
                printf("\nYou Won");
            }
            else if(monsters[0].attack >= *current_playerHP){
                printf("\nHP: %d",*current_monsterHP);
                *current_playerHP = 0;
                printf("\nYour HP: %d",*current_playerHP);
                printf("\nYou Lose");
                break;
            }
        }
        else{
            *current_monsterHP -= dmg;
            printf("\nHP: %d",*current_monsterHP);
            *current_playerHP -= monsters[0].attack;
            printf("\nYour HP: %d",*current_playerHP);
```

Monster game(evolved one) (cont)

```
>     }
    }
    else if(strcmp(choose,monsters[1].name) == 0){
        printf("Monster: %s",monsters[0].name);
        current_monsterHP = &monsters[1].hp;
        current_playerHP = &PlayerHP;
        printf("\nCurrent HP: %d",*current_monsterHP);
        printf("\nAttack power: %d",dmg);
        if (dmg > *current_monsterHP){
            *current_monsterHP = 0;
            printf("\nHP: %d",*current_monsterHP);
            printf("\nYour HP: %d",*current_playerHP);
            printf("\nYou Won");
        }
        else if(monsters[1].attack >= *current_playerHP){
            printf("\nHP: %d",*current_monsterHP);
            *current_playerHP = 0;
            printf("\nYour HP: %d",*current_playerHP);
            printf("\nYou Lose");
            break;
        }
    }
    else{
        *current_monsterHP -= dmg;
        printf("\nHP: %d",*current_monsterHP);
        *current_playerHP -= monsters[1].attack;
        printf("\nYour HP: %d",*current_playerHP);
    }
}
else if(strcmp(choose,monsters[2].name) == 0){
    printf("Monster: %s",monsters[0].name);
    current_monsterHP = &monsters[2].hp;
    current_playerHP = &PlayerHP;
    printf("\nCurrent HP: %d",*current_monsterHP);
    printf("\nAttack power: %d",dmg);
    if (dmg > *current_monsterHP){
        *current_monsterHP = 0;
```



By **phon**
cheatography.com/phon/

Published 12th December, 2018.
 Last updated 12th December, 2018.
 Page 9 of 13.

Sponsored by **ApolloPad.com**
 Everyone has a novel in them. Finish
 Yours!
<https://apollopad.com>

Monster game(evolved one) (cont)

```
>     printf("\nHP: %d",*current_monsterHP);
    printf("\nYour HP: %d",*current_playerHP);
    printf("\nYou Won");
}
else if(monsters[2].attack >= *current_playerHP){
    printf("\nHP: %d",*current_monsterHP);
    *current_playerHP = 0;
    printf("\nYour HP: %d",*current_playerHP);
    printf("\nYou Lose");
    break;
}
else{
    *current_monsterHP -= dmg;
    printf("\nHP: %d",*current_monsterHP);
    *current_playerHP -= monsters[2].attack;
    printf("\nYour HP: %d",*current_playerHP);
}
}
else{
    printf("Invalid Input");
}
}
}
```

Enter the 1st character of Monster's name: bone
 Enter the attack power from 1 to 100: 2
 Monster: bone
 HP: 48
 Your HP: 80

find min,range,mean(pointer) (cont)

```
>     return a;
}
int findMin(int *num){
    int a = (*num);
    for (int x = 0;x <= 4;x++){
        if (a > *(num + x)){
            a = *(num + x);
        }
    }
    return a;
}
int findRange(int num[],int z){
    int a = (*num);
    for (int x = 0;x < 4;x++){
        if (a <= *(num + x)){
            a = *(num + x);
        }
    }
    int c = a - z;
    return c;
}
int main(){
    int num[5];
    printf("Enter 5 integers: ");
    scanf("%d %d %d %d %d",&num[0],&num[1],&num[2],&num[3],&num[4]);
    printf("Mean: %.3f and Min: %d and Range: %d",findMean(num),findMin(num),findRange(num,findMin(num)));
}
```

Enter 5 integers: 39 100 -8 7 66
 Mean: 41.000 and Min: -8 and Range: 108

find min,range,mean(pointer)

```
#include <stdio.h>
float findMe an(int *num){
    float a=0;
    for (int x = 0; x < 5;x++){
        a += *num + x;
    }
    a = a / 5;
```

Lab3 wk11

```
#include <stdio.h>
#define N 4
int gcd(int num1, int num2) {
    // Parameter to store the GCD
    int result;
```



By **phon**
cheatography.com/phon/

Published 12th December, 2018.
 Last updated 12th December, 2018.
 Page 10 of 13.

Sponsored by **ApolloPad.com**
 Everyone has a novel in them. Finish Yours!
<https://apollopadd.com>

Lab3 wk11 (cont)

```
> int loop1 = 1;
while(num1 != num2){
    if(num1 > num2)
        num1 -= num2;
    else
        num2 -= num1;
}
return num1;
}

int main() {
    int num[N]; // Input numbers
    int result; // GCD of the input numbers
    printf("Enter %d numbers: ", N);
    for (int i=0 ; i<N ; i++) {
        scanf("%d", &num[i]);
    }
    result = gcd(num[0],num[1]);
    result = gcd(result,num[2]);
    result = gcd(result,num[3]);
    printf("GCD of ");
    for (int i=0 ; i<N ; i++) {
        printf("%d ", num[i]);
    }
    printf("is %d\n", result);
    return 0;
}

Enter 4 numbers: 122 134 153 187
GCD of 122 134 153 187 is 1
```

lab3 wk10

```
#include <stdio.h>
#include <time.h>
#include <stdlib.h>
int check(int a,int x){
    int z;
    if (a > x){
        z = 1;
    }
}
```

lab3 wk10 (cont)

```
> }
else if(a < x){
    z = 2;
}
else{
    z = 3;
}
return z;
}

int main(){
    srand(time(NULL));
    int loop = 1,x,y,count = 10,random = rand() % 100 + 1;
    while (count != 0){
        //printf("%d ",random);
        printf("Enter your guess: ");
        scanf("%d",&y);
        x = check(y,random);
        if (x == 1){
            printf("Wrong number :( Your guess was too high.\n");
            count--;
            printf("You have %d guesses left. Try again\n\n",count);
        }
        else if (x == 2){
            printf("Wrong number :( Your guess was too low.\n");
            count--;
            printf("You have %d guesses left. Try again\n\n",count);
        }
        else{
            printf("Hooray, you have won!\n");
            break;
        }
    }
    if (count == 0){
        printf("Sorry, you lose\n");
    }
}
```



lab3 wk10 (cont)

> Enter your guess: 1

Wrong number :(Your guess was too low.

You have 9 guesses left. Try again

bonuslab wk9

bonuslab wk9 (cont)

```
>      }  
      }  
    }  
    if (check == 1){  
        printf("The matrix is not symmetric.");  
    }  
    else{  
        printf("The matrix is symmetric.");  
    }  
    loop1 = 0;  
    }  
    }  
}
```

Enter the number of rows and columns: 3 3

Enter element 0,0: 1

Enter element 0,1: 1

Enter element 0,2: 1

Enter element 1,0: 1

Enter element 1,1: 1

Enter element 1,2: 1

Enter element 2,0: 1

Enter element 2,1: 1

Enter element 2,2: 1

The matrix is symmetric.

```

#include <stdio.h>
int main(){
    int rows,c ols ,loop1 = 1;
    pri ntf ("Enter the number of rows and
columns: ");
    sca nf( "%d %d", &r ows ,& cols);
    while (loop1 == 1){
        if (rows != cols){
            loop1 = 0;
            pri ntf ("That matrix must
be a square matrix.");
        }
        else{
            int matrix [ro ws] [cols];
            int tmatri x[r ows ][c ols];
            int count1 = 0,count2 = 0;
            for (int x = 0;x < rows;x++)
            {
                for (int y = 0;y <
cols;y++){
                    pri ntf -
("Enter element %d,%d: " ,x,y);
                    sca -
nf( " %d", &m atr ix[ x][y]);
                    tma tri -
x[c oun t1] [co unt2] = matrix [x][y];
                    cou nt1++;
                    if (count1
>= rows){
                        -
                        cou nt2++;
                        -
                        count1 = 0;
                    }
                }
            }
            int check = 0;
            for (int xt = 0;xt <
rows;x t++){
                for (int yt = 0;yt <
cols;y t++){
                    if (matri -
x[x t][yt] != tmatri x[x t][ yt]){
                        -
                        check = 1;
                        -
                    }
                }
            }
            break;
        }
    }
}

```

