**Answer ALL the questions.**

1. Declare this matrix in array forms

 1 

 2 4 1     3 2

 

i)  5 7 2

 2

* 1.  3

 

* 1.  4 1 

 9 3 6   

 2 5 

   4  

 

1. Declare this list of data in array forms

i) score1 = 82, 93, 73, 65, 78, 100.

ii) M0 = 23.13, M1 = 12.4, M2 = 32.5, M3 = 54.3

1. Given

int matrix1[3][3] int matrix2[3][3]

 2 4 1 

 

 5 7 2

 

9

6

3

 

 5 4 7 

 

 4 2 1 

 

2

8

0

 

i) matrix1[0][0] + matrix2[1][2] = ?

ii) matrix2[1][0] – matrix1[2][2] = ?

iii) matrix1[2][0] –( matrix1[2][1] + matrix2[2][0]) = ?

iv) matrix2[2][1] x matrix1[1][2] = ?

1. Which is valid/invalid declaration?

a)int natsu[2][2] = {1, 2, 3 ,4 }

b)float gaban[][2] = {0.1, 2.34 , -31.3 ,4.002 }

c)int daimyo[][] = {1, 2, 3 ,4 }

d) double sharingan[2][] = {1.3456, 2.000, 3.12 ,4.0 }

1. Which is invalid code in the program below and give your reason?

#include<stdio.h> int main(){

int disp[2][3];

int first[][]={1,2,3,4};

int second[][2]={1,2,3,4}; int i, j;

for(i=0; i<2; i++) {

printf("Enter value for disp[%d][%d]:", i, j); scanf("%d", &disp[i][j]);

}

printf("Two Dimensional array elements:\n"); for(j=0;j<3;j++) {

printf("%d ", disp[i][j]); if(j==2){

printf("\n");

}

}

printf("Elements of second:\n"); for(i=0; i<2; i++) {

for(j=0;j<3;j++) {

printf("%d \n", second[i][j]);

}

}

return 0;

}

1. Write a program to read a double dimensional array integer of order 3×4. Find out the sum of element and then display entered array as well as sum of these elements on the screen.
2. Write a program in C to read an array of the integer of order 4×4. Find out the sum of only those elements which is either divisible by 3 or 7. Display sum of these elements and entered array in tabular format on the screen.

T14Q1(a)

#include <stdio.h>

void displayNumbers(int num[3][3]);

int main()

{

int num[3][3];

printf("Enter 9 numbers:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 3; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &num[i][j]);

}

}

displayNumbers(num);

return 0;

}

void displayNumbers(int num[3][3])

{

printf("\n\n\tmatrix:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 3; ++j)

{

printf("\t");

printf("%d ", num[i][j]);

}

printf("\n");

}

}

T14Q1 (b)

#include <stdio.h>

void displayNumbers(int num[4][1]);

int main()

{

int num[4][1];

printf("Enter 4 numbers:\n");

for (int i = 0; i < 4; ++i)

{

for (int j = 0; j < 1; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &num[i][j]);

}

}

displayNumbers(num);

return 0;

}

void displayNumbers(int num[4][1])

{

printf("\n\n\tmatrix:\n");

for (int i = 0; i < 4; ++i)

{

for (int j = 0; j < 1; ++j)

{

printf("\t");

printf("%d ", num[i][j]);

}

printf("\n");

}

}

T14Q1 (c)

#include <stdio.h>

void displayNumbers(int num[3][2]);

int main()

{

int num[3][2];

printf("Enter 6 numbers:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 2; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &num[i][j]);

}

}

displayNumbers(num);

return 0;

}

void displayNumbers(int num[3][2])

{

printf("\n\n\tmatrix:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 2; ++j)

{

printf("\t");

printf("%d ", num[i][j]);

}

printf("\n");

}

}

T14Q6

#include <stdio.h>

void displayNumbers(int num[3][4],int total);

int sum(int num[3][4]);

int main()

{

int num[3][4],total;

printf("Enter 12 numbers:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 4; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &num[i][j]);

}

}

total = sum(num);

displayNumbers(num,total);

return 0;

}

void displayNumbers(int num[3][4],int total)

{

printf("\n\n\tmatrix:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 4; ++j)

{

printf("\t");

printf("%d ", num[i][j]);

}

printf("\n");

}

printf("\tthe sum of elements is %d",total);

}

int sum(int num[3][4])

{

int total = 0;

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 4; ++j)

{

total += num[i][j];

}

}

return total;

}

T14Q7

#include <stdio.h>

void displayNumbers(int num[4][4],int total);

int sum(int num[4][4]);

int main()

{

int num[4][4],total;

printf("Enter 16 numbers:\n");

for (int i = 0; i < 4; ++i)

{

for (int j = 0; j < 4; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &num[i][j]);

}

}

total = sum(num);

displayNumbers(num,total);

return 0;

}

void displayNumbers(int num[4][4],int total)

{

printf("\n\n\tmatrix:\n");

for (int i = 0; i < 4; ++i)

{

for (int j = 0; j < 4; ++j)

{

printf("\t");

printf("%d ", num[i][j]);

}

printf("\n");

}

printf("\tthe sum of elements is %d",total);

}

int sum(int num[4][4])

{

int total = 0;

for (int i = 0; i < 4; ++i)

{

for (int j = 0; j < 4; ++j)

{

if((num[i][j]%3==0)||(num[i][j]%7==0))

{

total += num[i][j];

}

}

}

return total;

}

T14Q2,3,4,5

//2(i) int score1[6] = {82,93,73,65,78,100};

//2(ii) float Mo[4] = {23.13,12.4,32.5,54.3};

//4(a)valid,(b)valid,(c)invalid,(d)invalid

//5 int first[][]={1,2,3,4}; invalid because we must specify second dimension

#include<stdio.h>

#include <stdio.h>

void displayNumbers(int m1[3][3],int m2[3][3]);

int main()

{

int m1[3][3],m2[3][3];

printf("Enter 9 numbers for matrix 1:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 3; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &m1[i][j]);

}

}

printf("Enter 9 numbers for matrix 2:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 3; ++j)

{

printf("Enter numbers a[%d][%d]:\n",i,j);

scanf("%d", &m2[i][j]);

}

}

displayNumbers(m1,m2);

printf(" \nmatrix1[0][0] + matrix2[1][2] = %d", ( m1[0][0] + m2[1][2]));

printf(" \nmatrix2[1][0] - matrix1[2][2] = %d", ( m2[1][0] - m1[2][2]));

printf(" \nmatrix1[2][0] - ( matrix1[2][1] + matrix2[2][0]) = %d", (m1[2][0]-(m1[2][1] + m2[2][0])));

printf(" \nmatrix2[2][1] x matrix1[1][2] = %d", ( m2[2][1] \* m1[1][2]));

return 0;

}

void displayNumbers(int m1[3][3],int m2[3][3])

{

printf("\n\n\tmatrix 1:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 3; ++j)

{

printf("\t");

printf("%d ", m1[i][j]);

}

printf("\n");

}

printf("\n\n\tmatrix 2:\n");

for (int i = 0; i < 3; ++i)

{

for (int j = 0; j < 3; ++j)

{

printf("\t");

printf("%d ", m2[i][j]);

}

printf("\n");

}

}

Sir’s ans

[3:08 pm] LIM YONG LIANG

T14Q1

[3:08 pm] LIM YONG LIANG

**1)int a[3][3] ;             2)int b[4][1] ;                   3)|int c[3][2**

[3:09 pm] LIM YONG LIANG

T14Q2

[3:09 pm] LIM YONG LIANG

**1)int score1[6];2) double M[4];**

[3:09 pm] LIM YONG LIANG

T14Q3

[3:12 pm] LIM YONG LIANG

1)32)-23)44)0

[3:13 pm] LIM YONG LIANG

T14 Q4

[3:13 pm] LIM YONG LIANG

1)valid2)valid3)invalid4)invalid

[3:13 pm] LIM YONG LIANG

T14 Q5

[3:16 pm] LIM YONG LIANG

**int first[][]={​​​​​​1,2,3,4}​​​​​​​​​​​​​; invalid: the column bracket cannot be empty**

​**for(i=0; i<2; i++) {​​​​​​​​​​​​​ invalid: for loop of the dimension is not enough for 2D array** ​​​​​​​**for(j=0;j<3;j++) {​​​​​​​​​​​​​ invalid: for loop of the dimension is not enough for 2D array**​

[Yesterday 8:32 AM] LIM YONG LIANG

**for(j=0;j<3;j++) {​​​​​​​​​​​​​ invalid: wrong dimension for second array**

[3:16 pm] LIM YONG LIANG

T14Q6

[3:16 pm] LIM YONG LIANG

**#include <stdio.h>**

**int main(void)**

**{​​​​​​ int m[3][4], i, j, sum;**

**sum = 0;**

**for (i = 0; i <= 2 ; i++)**

**{​​​​​​ for (j = 0; j <= 3 ; j++)**

**{​​​​​​**

**printf( "Enter m[%d][%d]\n",i,j);**

**scanf("%d",&m[i][j]);**

**sum+=m[i][j];**

**}​​​​​​**

**}​​​​​​**

**printf("\n\n");**

**i = 0;**

**do**

**{​​​​​​ j=0;**

**do**

**{​​​​​​**

**printf( "%d\t",m[i][j]);**

**j++;**

**}​​​​​​while(j <= 3 );**

**printf("\n");**

**i++;**

**}​​​​​​while(i <= 2 );**

**printf("sum the all elements in the matrix=%d\n", sum);**

**return 0;}​​​​​​**

[3:17 pm] LIM YONG LIANG

T14Q7

**#include <stdio.h>**

**int main(void)**

**{ int m[4][4], i, j, sum;**

**sum = 0;**

**for (i = 0; i <= 3 ; i++)**

**{ for (j = 0; j <= 3 ; j++)**

**{**

**printf( "Enter m[%d][%d]\n",i,j);**

**scanf("%d",&m[i][j]);**

**if ((m[i][j]%3 ==0)||(m[i][j]%7 == 0))**

**{sum+=m[i][j];}**

**}**

**}**

**printf("\n\n");**

**i = 0;**

**do**

**{ j=0;**

**do**

**{**

**printf( "%d\t",m[i][j]);**

**j++;**

**}while(j <= 3 );**

**printf("\n");**

**i++;**

**}while(i <= 3 );**

**printf("sum of the all elements which is either divisible by 3 or 7 in the matrix=%d\n", sum);**

**return 0;}**