# Question No. 1:

#include<iostream>

using namespace std;

const int rows = 3;

const int columns = 3;

void input(int array[rows][columns])

{

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

{

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

{

cout << "Enter Array Elements for [" << i << ", " << j << "]\t";

cin >> array[i][j];

}

}

}

void output(int array[rows][columns])

{

for(int k=0; k<rows; k++)

{

for(int m=0; m<columns; m++)

{

cout << array[k][m] << "\t";

}

cout << endl;

}

}

int main()

{

int array[rows][columns];

input(array);

output(array);

}

# Output:

# Question No. 2:

#include<iostream>

using namespace std;

int main()

{

int rows;

int columns;

int array[rows][columns];

cout << "Enter Number of rows: ";

cin >> rows;

cout << "Enter Number of columns: ";

cin >> columns;

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

{

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

{

cout << "Enter Array Elements for ";

cin >> array[i][j];

}

}

for(int k=0; k<rows; k++)

{

for(int m=0; m<columns; m++)

{

cout << array[k][m] << "\t";

}

cout << endl;

}

}

# Output:

# Question No. 3:

#include<iostream>

using namespace std;

int main()

{

const int rows = 3;

const int columns = 3;

int arr[rows][columns];

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

{

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

{

cout << "Enter element for Array " << i << ", " << j << " : " ;

cin >> arr[i][j];

}

}

cout << "Element for Array after multiplication by 3 are: " << endl;

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

{

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

{

cout << arr[i][j] \* 3 << "\t";

}

cout << endl;

}

}

# Output:

# Question No. 4:

/\*Input a 4-by-5 array and find the minimum and maximum element from it\*/

#include<iostream>

using namespace std;

int main()

{

const int rows = 4;

const int columns = 5;

int arr[rows][columns];

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

{

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

{

cout << "Enter element for Array " << i << ", " << j << " : " ;

cin >> arr[i][j];

}

}

int max = arr[0][0];

int min = arr[0][0];

//Maximum

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

{

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

{

if(arr[i][j] > max)

{

max = arr[i][j];

}

}

}

//Minimum

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

{

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

{

if(arr[i][j] < min)

{

min = arr[i][j];

}

}

}

cout << "\nThe Maximum element is: " << max<< endl;

cout << "\nThe Minimum element is: " << min<< endl;

}

# Output:

# Question No. 5:

#include <iostream>

using namespace std;

int main()

{

int a[10][10], b[10][10], mult[10][10], r1, c1, r2, c2, i, j, k;

r1 = 3;

c1 = 3;

r2 = 3;

c2 = 3;

// Storing elements of first matrix.

cout << endl << "Enter elements of matrix 1:" << endl;

for(i = 0; i < r1; ++i)

for(j = 0; j < c1; ++j)

{

cout << "Enter element a" << i + 1 << ", "<< j + 1 << " : ";

cin >> a[i][j];

}

// Storing elements of second matrix.

cout << endl << "Enter elements of matrix 2:" << endl;

for(i = 0; i < r2; ++i)

for(j = 0; j < c2; ++j)

{

cout << "Enter element b" << i + 1 << ", " << j + 1 << " : ";

cin >> b[i][j];

}

// Initializing elements of matrix mult to 0.

for(i = 0; i < r1; ++i)

for(j = 0; j < c2; ++j)

{

mult[i][j]=0;

}

// Multiplying matrix a and b and storing in array mult.

for(i = 0; i < r1; ++i)

for(j = 0; j < c2; ++j)

for(k = 0; k < c1; ++k)

{

mult[i][j] += a[i][k] \* b[k][j];

}

// Displaying the multiplication of two matrix.

cout << endl << "Output Matrix: " << endl;

for(i = 0; i < r1; ++i)

for(j = 0; j < c2; ++j)

{

cout << " " << mult[i][j];

if(j == c2-1)

cout << endl;

}

return 0;

}

# Output:

# Question No. 6:

#include <iostream>

using namespace std;

int main()

{

int a[10][10], b[10][10], mult[10][10], r1, c1, r2, c2, i, j, k;

cout << "Enter rows and columns for first matrix: ";

cin >> r1 >> c1;

cout << "Enter rows and columns for second matrix: ";

cin >> r2 >> c2;

// If column of first matrix in not equal to row of second matrix,

// ask the user to enter the size of matrix again.

while (c1!=r2)

{

cout << "Error! column of first matrix not equal to row of second.";

cout << "Enter rows and columns for first matrix: ";

cin >> r1 >> c1;

cout << "Enter rows and columns for second matrix: ";

cin >> r2 >> c2;

}

// Storing elements of first matrix.

cout << endl << "Enter elements of matrix 1:" << endl;

for(i = 0; i < r1; ++i)

for(j = 0; j < c1; ++j)

{

cout << "Enter element a" << i + 1 << j + 1 << " : ";

cin >> a[i][j];

}

// Storing elements of second matrix.

cout << endl << "Enter elements of matrix 2:" << endl;

for(i = 0; i < r2; ++i)

for(j = 0; j < c2; ++j)

{

cout << "Enter element b" << i + 1 << j + 1 << " : ";

cin >> b[i][j];

}

// Initializing elements of matrix mult to 0.

for(i = 0; i < r1; ++i)

for(j = 0; j < c2; ++j)

{

mult[i][j]=0;

}

// Multiplying matrix a and b and storing in array mult.

for(i = 0; i < r1; ++i)

for(j = 0; j < c2; ++j)

for(k = 0; k < c1; ++k)

{

mult[i][j] += a[i][k] \* b[k][j];

}

// Displaying the multiplication of two matrix.

cout << endl << "Output Matrix: " << endl;

for(i = 0; i < r1; ++i)

for(j = 0; j < c2; ++j)

{

cout << " " << mult[i][j];

if(j == c2-1)

cout << endl;

}

return 0;

}

# Output:

# Question No. 7:

#include <iostream>

using namespace std;

int main() {

char a[3][10];

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

cin >> a[i];

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

cout << a[i] << endl;

return 0;

}

# Output:

# Question No. 8:

#include<iostream>

using namespace std;

int main(){

int ary[4][6]={{1005,75,85,80,75,(75+85+80+75)/4},{1006,85,65,78,86,(85+65+78+86)/4},{1007,65,70,69,58,(65+70+69+58)/4},{1008,60,75,79,79,(60+75+79+79)/4}};

cout<<"Student#\tProgramming\tCalculus\tLinear Algebra\tIslamic Studies\tAverage"<<endl;

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

for(int j=0;j<6;j++){

cout<<ary[i][j]<<"\t\t";

}cout<<endl;

}

}

# Output:

# Question No. 9:

#include <iostream>

using namespace std;

int main()

{

char var = 'A';

int var1 = 5;

char \*ptr;

int \*ptr1;

ptr = &var;

ptr1 = &var1;

cout << "Value is character variable: " << var << endl;

cout << "Address of character variable: " << (void\*)ptr << endl;

cout << "\nValue is integer variable: " << var1 << endl;

cout << "Address of integer variable: " << ptr1 << endl;

}

# Output:

# Question No. 10:

#include<iostream>

#include<stdlib.h>

using namespace std;

int main()

{

char a[3]={'a','b','c'};

float b[3]={1.1, 2.2, 3.3};

float \*ptr = b;

char \*ptr1 = a;

cout << ptr << endl;

cout<< ptr + 1 << endl;

cout << ptr + 2 << endl;

return 0;

}

# Output:

# Question No. 11:

#include<iostream>

using namespace std;

int main()

{

char a, b, c, \*e, \*f, \*g;

e = &a;

f = &b;

g = &c;

cout << "Enter three characters: ";

cin >> \*e >> \*f >> \*g;

cout<<"You enter character: "<< endl;

cout << \*e << endl << \*f << endl << \*g;

return 0;

}

# Output:

# Question No. 12:

#include<iostream>

using namespace std;

int main()

{

float a,b,c,\*pt1,\*pt2,\*pt3,s;

pt1=&a;

pt2=&b;

pt3=&c;

cout<<" Enter three values of pointer: ";

cin>>\*pt1>>\*pt2>>\*pt3;

s=\*pt1+\*pt2+\*pt3;

cout<<”Average is: "<<s/3;

}

# Output:

# Question No. 13:

#include<iostream>

using namespace std;

int sum(int \*a,int \*b,int \*c){

int add=\*a+\*b+\*c;

return add;

}

int main(){

int a,b,c,\*e,\*f,\*g;

cout<<"Enter 3 values: ";

cin>>a>>b>>c;

e=&a;

f=&b;

g=&c;

cout<<"The sum is"<<sum(e,f,g);

return 0;

}

# Output:

# Question No. 14:

#include<iostream>

using namespace std;

void swap(int \*a,int \*b)

{

int temp=\*a;

\*a=\*b;

\*b=temp;

}

int main()

{

int c, d;

cout<<"Enter 2 Values: ";

cin >> c >> d;

swap(&c, &d);

cout << "After Swapping: ";

cout << c << endl << d;

return 0;

}

# Output: