***Q1.*** ***Write a C++ program to find the Diagonal Sum of a 2D-Matrix.***

***Hint: The Matrix should be square (i.e. the number of rows is equal to the number of columns).***

***Solution:***

#include <iostream>

const int SIZE = 3; // Change this value for a different matrix size

// Function to find the diagonal sum of a square matrix

int diagonalSum(int matrix[][SIZE]) {

int sum = 0;

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

sum += matrix[i][i]; // Add the element at the diagonal

}

return sum;

}

int main() {

int matrix[SIZE][SIZE];

// Get user input for the matrix elements

std::cout << "Enter elements for a " << SIZE << "x" << SIZE << " matrix:" << std::endl;

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

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

std::cout << "Enter element at position (" << i << ", " << j << "): ";

std::cin >> matrix[i][j];

}

}

// Calculate and display the diagonal sum

int sum = diagonalSum(matrix);

std::cout << "Diagonal sum: " << sum << std::endl;

return 0;

}