

Algorithms Level 3



26+ Years
of Experience

PROGRAMMING ADVICES

LEARN THE
RIGHT WAY

Mohammed Abu-Hadhoud

MBA, PMOC, PgMP®, PMP®, PMI-RMP®, CM, ITIL®, MCPD, MCSD



حقوق النشر محفوظة، أسعار الكورسات في المنصة هي أسعار
رمزية جدا، ارجو عدم نشر هذه الوثيقة لان نشرها سيمنعنا من
الاستمرار في تقديم العلم للآخرين

ارجو عدم استخدام هذه الوثيقة من غير وجه حق لأنك ستحرم الاف
الناس من التعلم

ProgrammingAdVICES.com



Problem # 2/3 Solution Using C++

```
#include <iostream>
#include <string>
#include <iomanip>

using namespace std;

int RandomNumber(int From, int To)
{
    //Function to generate a random number
    int randNum = rand() % (To - From + 1) + From;
    return randNum;
}

void FillMatrixWithRandomNumbers(int arr[3][3], short Rows, short Cols)
{
    for (short i = 0; i < Rows; i++)
    {
        for (short j = 0; j < Cols; j++)
        {
            arr[i][j] = RandomNumber(1, 100);
        }
    }
}

void PrintMatrix(int arr[3][3], short Rows, short Cols)
{
    for (short i = 0; i < Rows; i++)
    {
        for (short j = 0; j < Cols; j++)
        {
            cout << setw(3) << arr[i][j] << "    ";
        }
        cout << "\n";
    }
}
```



Problem # 2/3 Solution Using C++

```
int RowSum(int arr[3][3], short RowNumber, short Cols)
{
    int Sum = 0;
    for (short j = 0; j <= Cols - 1; j++)
    {
        Sum += arr[RowNumber][j];
    }

    return Sum;
}

void PrintEachRowSum(int arr[3][3], short Rows, short Cols)
{
    cout << "\nThe the following are the sum of each row in the
matrix:\n";
    for (short i = 0; i < Rows; i++)
    {
        cout << " Row " << i + 1 << " Sum = " << RowSum(arr,i,
Cols) << endl;
    }
}

int main()
{
    //Seeds the random number generator in C++, called only once
    srand((unsigned)time(NULL));

    int arr[3][3];

    FillMatrixWithRandomNumbers(arr, 3, 3);

    cout << "\nThe following is a 3x3 random matrix:\n";
    PrintMatrix(arr, 3, 3);

    PrintEachRowSum(arr,3, 3);
    system("pause>0");
}
```