Department of Artificial Intelligence and Multimedia Gaming Fundamentals of Programming

(Fall-2025)

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Section: D

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LAB No. 08

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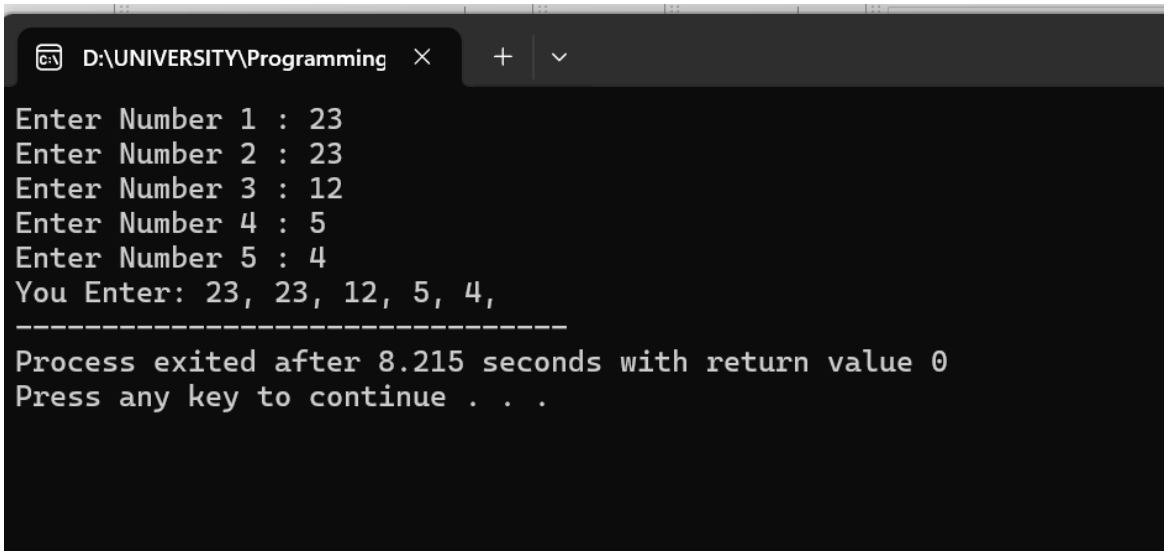
Task 1

Code:

```cpp
#include<iostream>
using namespace std;
int main() {
int arr[5];
for(int i=0;i<5;i++){
cout<<"Enter Number "<<i+1<<" : ";
cin>>arr[i];
}
cout<<"You Enter: ";
for(int i=0;i<5;i++){
cout<<arr[i]<<","<<" ";
}
    return 0;
}
```

Output:



Task 2

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
    int N;
    cout << "Enter the size of the array (N): ";
    cin >> N;
    int arr[N];
    cout << "Enter " << N << " integers:" << endl;
    for (int i = 0; i < N; i++) {
        cout << "Enter integer " << i + 1 << ": ";
        cin >> arr[i];
    }
    int largest = arr[0];
    for (int i = 1; i < N; i++) {
        if (arr[i] > largest) {
            largest = arr[i];
        }
    }
    cout << "\nThe largest number in the array is: " << largest << endl;
    return 0;
}
```

Output:

```
Enter the size of the array (N): 5
Enter 5 integers:
Enter integer 1: 2
Enter integer 2: 4
Enter integer 3: 7
Enter integer 4: 5
Enter integer 5: 7

The largest number in the array is: 7

--------------------------------
Process exited after 10.82 seconds with return value 0
Press any key to continue . . .
```

Task 3

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
    int arr[8];
    int positive = 0, negative = 0, zero = 0;
    cout << "Enter 8 integers:" << endl;
    for (int i = 0; i < 8; i++) {
        cout << "Enter integer " << i + 1 << ": ";
        cin >> arr[i];
        if (arr[i] > 0) {
            positive++;
        } else if (arr[i] < 0) {
            negative++;
        } else {
            zero++;
        }
    }
    cout << "\nCount of positive numbers: " << positive << endl;
    cout << "Count of negative numbers: " << negative << endl;
    cout << "Count of zeros: " << zero << endl;

    return 0;
}
```

Output:

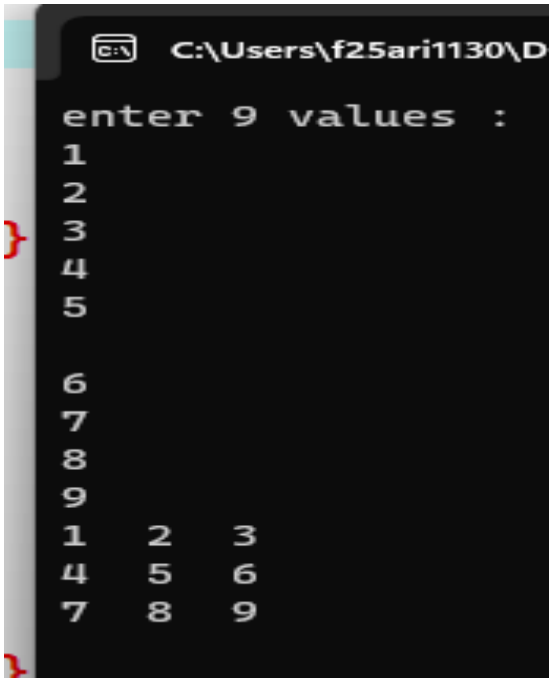
```
Enter 8 integers:
Enter integer 1: 3
Enter integer 2: 5
Enter integer 3: 2
Enter integer 4: 6
Enter integer 5: 8
Enter integer 6: 6
Enter integer 7: 5
Enter integer 8: 9

Count of positive numbers: 8
Count of negative numbers: 0
Count of zeros: 0

--------------------------------
Process exited after 13.73 seconds with return value 0
Press any key to continue . . .
```

Task 4

Code:

```cpp
#include <iostream>
using namespace std ;
int main(){
    cout<<"enter 9 values : "<<endl;
    int arr [3][3];
    for(int i =0;i<3;i++){
        for (int j=0; j<3;j++){
        cin>>arr[i][j];
    }
}
        for(int i =0;i<3;i++){

        for(int j =0; j<3;j++){
            cout<< arr[i][j] <<"   ";
        }
        cout<<endl;
    }
        return 0;
}
```

Output:

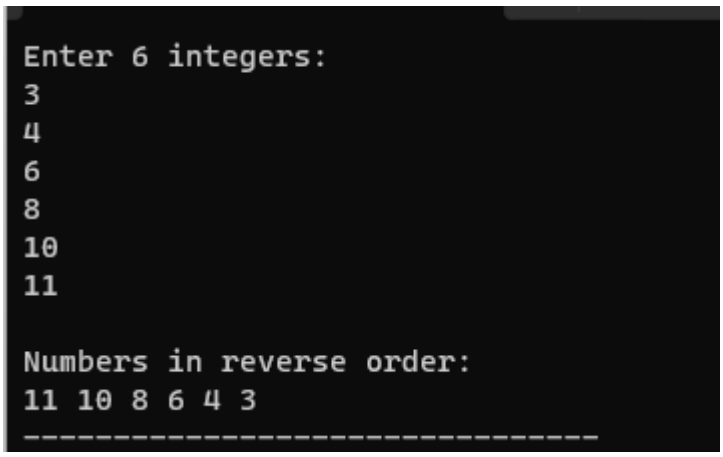


Task 5

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
    int arr[6];
    cout << "Enter 6 integers:\n";
    for (int i = 0; i < 6; i++) {
        cin >> arr[i];
    }
    cout << "\nNumbers in reverse order:\n";
    for (int i = 5; i >= 0; i--) {
        cout << arr[i] << " ";
    }

    return 0;
}
```

Output:



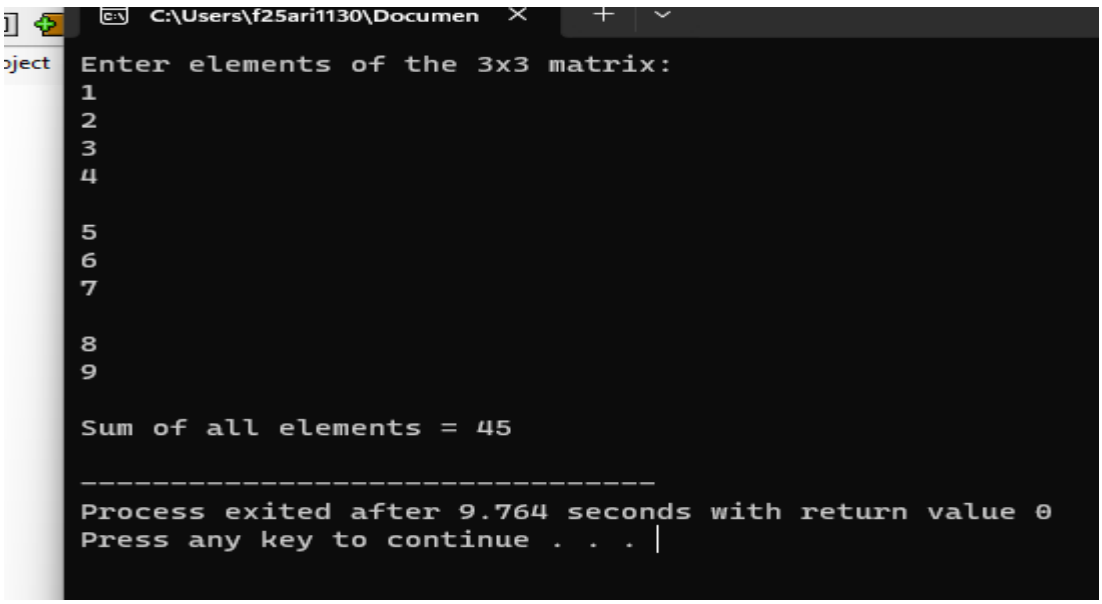
Task 6

Code:

[*] arrayes.cpp table.cpp

```cpp
#include <iostream>
using namespace std;

int main() {
    int matrix[3][3];
    int sum = 0;
    cout << "Enter elements of the 3x3 matrix:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> matrix[i][j];
            sum += matrix[i][j];
        }
    }
    cout << "\nSum of all elements = " << sum << endl;

    return 0;
}
```

Output:

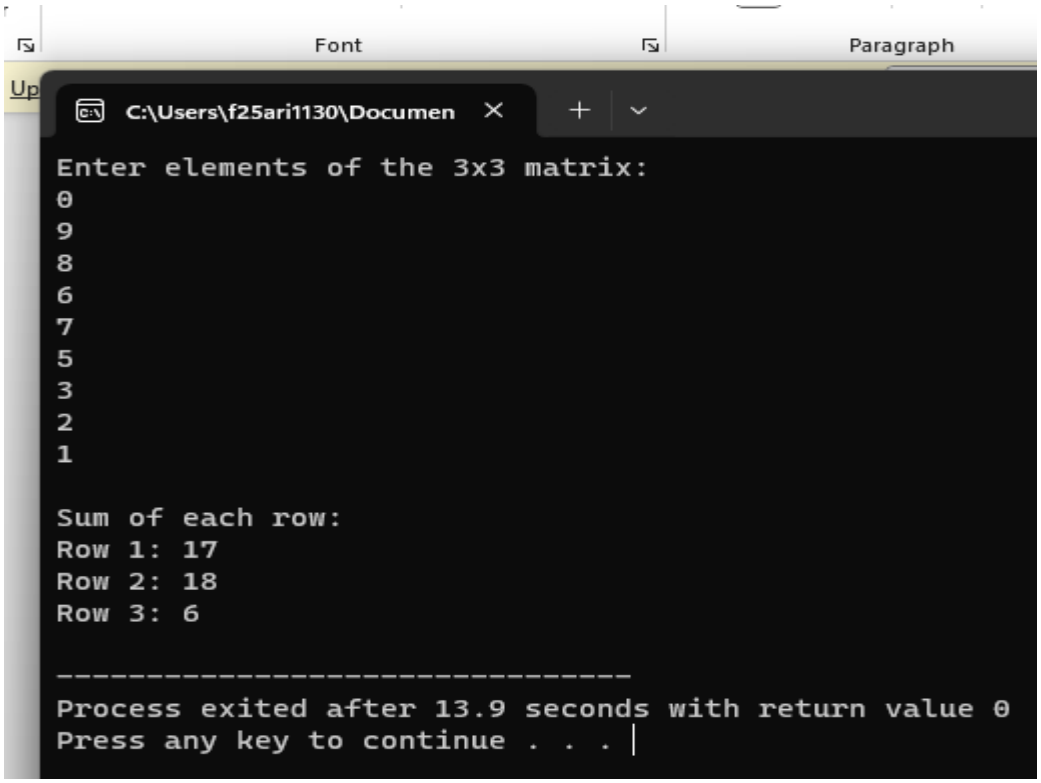


Task 7

Code:

```cpp
#include <iostream>
using namespace std;

int main() {
    int matrix[3][3];
    int rowSum;
    cout << "Enter elements of the 3x3 matrix:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> matrix[i][j];
        }
    }
    cout << "\nSum of each row:\n";
    for (int i = 0; i < 3; i++) {
        rowSum = 0;

        for (int j = 0; j < 3; j++) {
            rowSum += matrix[i][j];
        }

        cout << "Row " << i + 1 << ": " << rowSum << endl;
    }

    return 0;
}
```

Output:



Task 8

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
    int matrix[3][3];
    int colSum;
    cout << "Enter elements of the 3x3 matrix:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> matrix[i][j];
        }
    }
    cout << "\nSum of each column:\n";
    for (int j = 0; j < 3; j++) {
        colSum = 0;

        for (int i = 0; i < 3; i++) {
            colSum += matrix[i][j];
        }
        cout << "Column " << j + 1 << ": " << colSum << endl;
    }
    return 0;
}
```

Output:

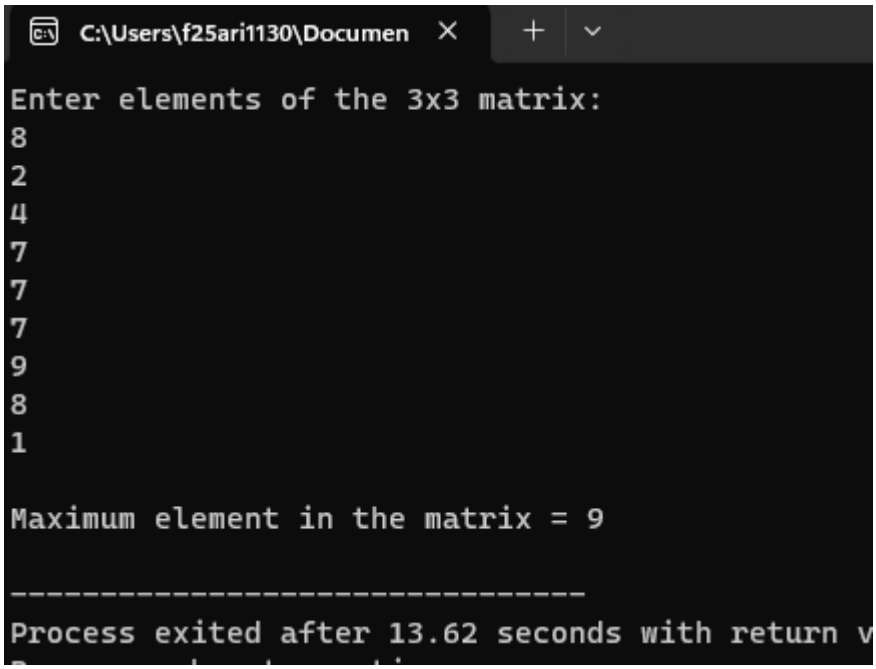
```
Enter elements of the 3x3 matrix:
8
7
6
9
0
3
2
1
7

Sum of each column:
Column 1: 19
Column 2: 8
Column 3: 16

--------------------------------
Process exited after 13.56 seconds with return value 0
Press any key to continue . . .
```

Task 9

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
    int matrix[3][3];
    int maxElement;
    cout << "Enter elements of the 3x3 matrix:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> matrix[i][j];
        }
    }

    maxElement = matrix[0][0];
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            if (matrix[i][j] > maxElement) {
                maxElement = matrix[i][j];
            }
        }
    }
    cout << "\nMaximum element in the matrix = " << maxElement << endl;

    return 0;
}
```

Output:

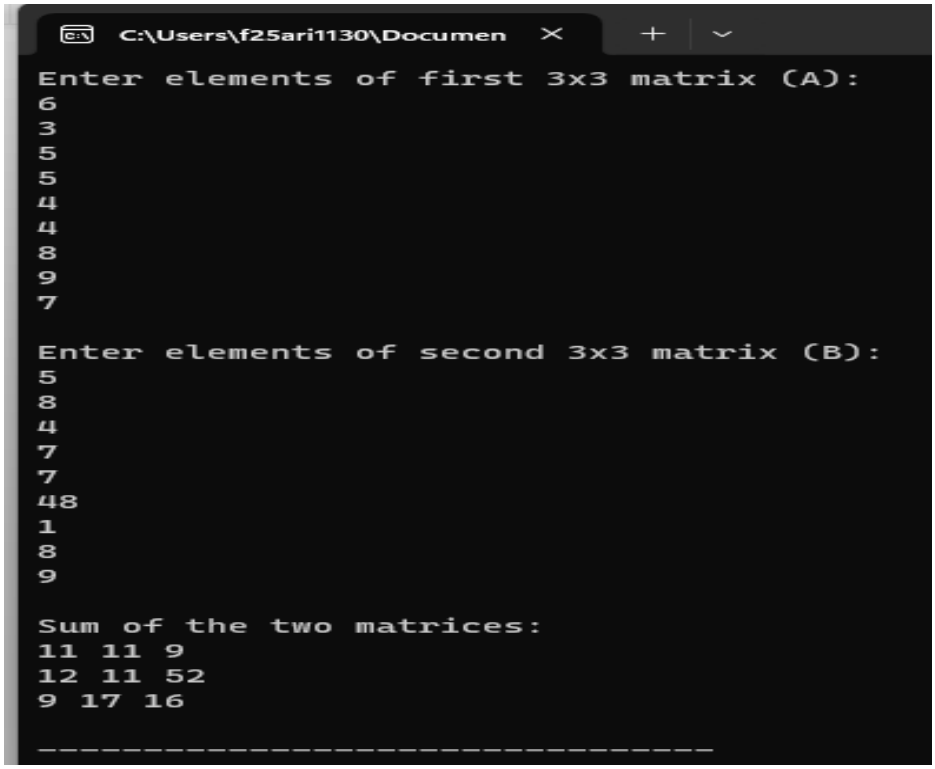


Task 10

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
int A[3][3], B[3][3], Sum[3][3];

cout << "Enter elements of first 3x3 matrix (A):\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> A[i][j];
        }
    }
cout << "\nEnter elements of second 3x3 matrix (B):\n";
        for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> B[i][j];
        }
    }
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            Sum[i][j] = A[i][j] + B[i][j];
        }
    }
cout << "\nSum of the two matrices:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cout << Sum[i][j] << " ";
        }
        cout << endl;
    }

    return 0;
}
```

Output:



Task 11

Code:

```cpp
#include <iostream>
using namespace std;
int main() {
    int matrix[3][3], transpose[3][3];
    cout << "Enter elements of the 3x3 matrix:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cin >> matrix[i][j];
        }
    }
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            transpose[j][i] = matrix[i][j];
        }
    }
    cout << "\nTranspose of the matrix:\n";
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            cout << transpose[i][j] << " ";
        }
        cout << endl;
    }

    return 0;
}
```

Output:

```
C:\Users\f25ari1130\Documen
Enter elements of the 3x3 matrix:
7
8
9
4
5
6
1
2
3

Transpose of the matrix:
7 4 1
8 5 2
9 6 3

--------------------------------
```