**C PROGRAM FOR MATRIX FUNCTIONS:**

#include <stdio.h>

#define ROWS 3

#define COLS 3

void addMatrices(int A[ROWS][COLS], int B[ROWS][COLS], int result[ROWS][COLS]) {

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

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

result[i][j] = A[i][j] + B[i][j];

}

}

}

void subtractMatrices(int A[ROWS][COLS], int B[ROWS][COLS], int result[ROWS][COLS]) {

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

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

result[i][j] = A[i][j] - B[i][j];

}

}

}

void multiplyMatrices(int A[ROWS][COLS], int B[ROWS][COLS], int result[ROWS][COLS]) {

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

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

result[i][j] = 0;

for (int k = 0; k < COLS; k++) {

result[i][j] += A[i][k] \* B[k][j];

}

}

}

}

void printMatrix(int matrix[ROWS][COLS]) {

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

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

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

}

printf("\n");

}

}

int main() {

int matrixA[ROWS][COLS] = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}};

int matrixB[ROWS][COLS] = {{9, 8, 7}, {6, 5, 4}, {3, 2, 1}};

int result[ROWS][COLS];

printf("Matrix A:\n");

printMatrix(matrixA);

printf("\nMatrix B:\n");

printMatrix(matrixB);

printf("\nMatrix A + B:\n");

addMatrices(matrixA, matrixB, result);

printMatrix(result);

printf("\nMatrix A - B:\n");

subtractMatrices(matrixA, matrixB, result);

printMatrix(result);

printf("\nMatrix A \* B:\n");

multiplyMatrices(matrixA, matrixB, result);

printMatrix(result);

return 0;

}