

```
1  #include <stdio.h>
2
3  int main() {
4      int A[2][2][2] = {
5          {{1, 2}, {3, 4}},
6          {{2, 0}, {1, 2}}
7      };
8
9      int B[2][2][2] = {
10         {{5, 6}, {7, 8}},
11         {{1, 2}, {3, 4}}
12     };
13
14     int C[2][2][2] = {0};
15
16     // Multiply each layer (2D matrix multiplication per layer)
17     for (int layer = 0; layer < 2; layer++) {
18         for (int i = 0; i < 2; i++) {
19             for (int j = 0; j < 2; j++) {
20                 for (int k = 0; k < 2; k++) {
21                     C[layer][i][j] += A[layer][i][k] * B[layer][k][j];
22                 }
23             }
24         }
25     }
26 }
```

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21         C[layer][i][j] += A[layer][i][k] * B[layer][k][j],
22     }
23 }
24 }
25 }
26
27 // Display result
28 printf("Resultant 3D Matrix (Multiplication):\n");
29 for (int layer = 0; layer < 2; layer++) {
30     printf("Layer %d:\n", layer + 1);
31     for (int i = 0; i < 2; i++) {
32         for (int j = 0; j < 2; j++) {
33             printf("%d\t", C[layer][i][j]);
34         }
35         printf("\n");
36     }
37     printf("\n");
38 }
39
40 return 0;
41 }
42

```

Resultant 3D Matrix (Multiplication):

Layer 1:

19 22

43 50

Layer 2:

2 4

7 10