```c
#include <stdio.h>

int main() {
    int A[2][2][2] = {
        {{1, 2}, {3, 4}},
        {{5, 6}, {7, 8}}
    };

    int T[2][2][2];

    // Transpose each 2D matrix (layer)
    for (int layer = 0; layer < 2; layer++) {
        for (int i = 0; i < 2; i++) {
            for (int j = 0; j < 2; j++) {
                T[layer][j][i] = A[layer][i][j];
            }
        }
    }

    // Display original and transposed 3D matrices
    for (int layer = 0; layer < 2; layer++) {
        printf("Original Layer %d:\n", layer + 1);
        for (int i = 0; i < 2; i++) {
            for (int j = 0; j < 2; j++)
                printf("%d\t", A[layer][i][j]);
            printf("\n");
```

```
27          }
28
29          printf("Transposed Layer %d:\n", layer + 1);
30          for (int i = 0; i < 2; i++) {
31              for (int j = 0; j < 2; j++)
32                  printf("%d\t", T[layer][i][j]);
33              printf("\n");
34          }
35          printf("\n");
36      }
37
38      return 0;
39  }
40
```

```
Original Layer 1:
1   2
3   4
Transposed Layer 1:
1   3
2   4

Original Layer 2:
5   6
7   8
Transposed Layer 2:
5   7
6   8
```