#include <stdio.h>

void flyd(int w[10][10], int n) {

int i, j, k;

for (k = 1; k <= n; k++)

for (i = 1; i <= n; i++)

for (j = 1; j <= n; j++)

w[i][j] = (w[i][j] < w[i][k] + w[k][j]) ? w[i][j] : (w[i][k] + w[k][j]);

}

int main() {

int a[10][10];

int n, i, j;

printf("Enter the number of vertices: ");

scanf("%d", &n);

printf("Enter the weighted matrix:\n");

for (i = 1; i <= n; i++)

for (j = 1; j <= n; j++)

scanf("%d", &a[i][j]);

flyd(a, n);

printf("The shortest path matrix is:\n");

for (i = 1; i <= n; i++) {

for (j = 1; j <= n; j++) {

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

}

printf("\n");

}

return 0;

}

Output:

Enter the number of vertices: 4

Enter the weighted matrix:

0 99 3 99

2 0 99 99

99 7 0 1

6 99 99 0

The shortest path matrix is:

0 10 3 4

2 0 5 6

7 7 0 1

6 16 9 0

=== Code Execution Successful ===