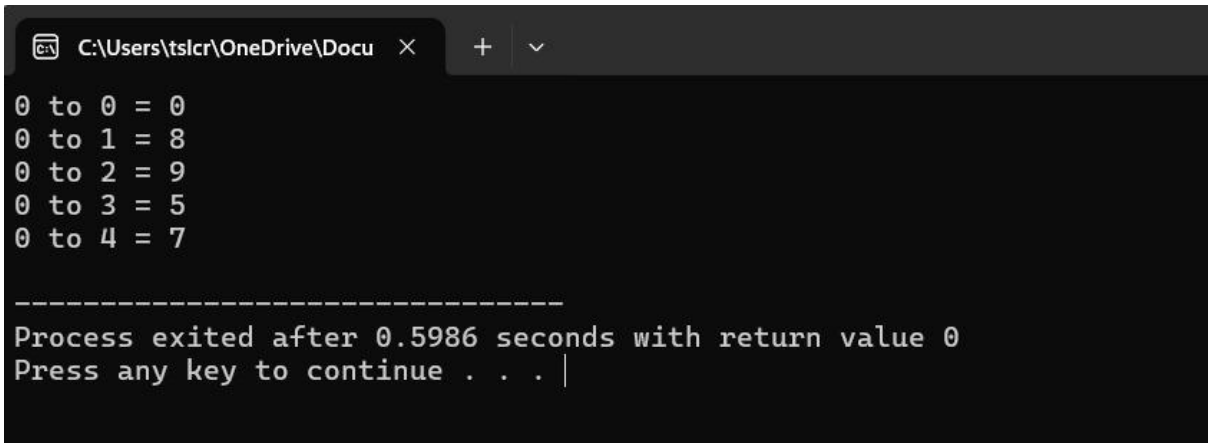
33. Implementation of Shortest Path Algorithms using Dijkstra's Algorithm.

```
#include <stdio.h>
int g[5][5] = {{0,10,0,5,0},{0,0,1,2,0},{0,0,0,0,4},{0,3,9,0,2},{7,0,6,0,0}}, d[5], v[5];
void dijkstra(int s)
{
   for (int i = 0; i < 5; i++) d[i] = INF;
   d[s] = 0;
   for (int i = 0; i < 4; i++) {
      int u = -1;
      for (int j = 0; j < 5; j++)
         if (!v[j] && (u == -1 || d[j] < d[u])) u = j;
      v[u] = 1;
      for (int k = 0; k < 5; k++)
         if (g[u][k] && d[u] + g[u][k] < d[k])
            d[k] = d[u] + g[u][k];
   }
   for (int i = 0; i < 5; i++) printf("0 to %d = %d\n", i, d[i]);
}
int main() {
   dijkstra(0);
   return 0;
}
```

OUTPUT


C:\Users\tslcr\OneDrive\Docu
0 to 0 = 0
0 to 1 = 8
0 to 2 = 9
0 to 3 = 5
0 to 4 = 7

Process exited after 0.5986 seconds with return value 0
Press any key to continue . . .