dijkstraalgorithm.c

```c
#include <stdio.h>
#define INFINITY 9999
#define MAX 10

void Dijkstra(int Graph[MAX][MAX], int n, int start) {
   int cost[MAX][MAX], distance[MAX], pred[MAX], visited[M
   int count, mindistance, nextnode, i, j;
   for(i=0; i<n; i++)
      for(j=0; j<n; j++)
         cost[i][j] = (Graph[i][j]==0) ? INFINITY : Graph[i][j];

   for(i=0; i<n; i++){
      distance[i]=cost[start][i];
      pred[i]=start;
      visited[i]=0;
   }
   distance[start]=0; visited[start]=1; count=1;

   while(count < n-1){
      mindistance=INFINITY;
      for(i=0; i<n; i++)
         if(distance[i]<mindistance && !visited[i]) {
            mindistance = distance[i]; nextnode = i;
         }
      visited[nextnode]=1;
      for(i=0; i<n; i++)
         if(!visited[i] && mindistance+cost[nextnode][i]<distar
            distance[i]=mindistance+cost[nextnode][i];
            pred[i]=nextnode;
         }
      count++;
   }
   for(i=0; i<n; i++) if(i!=start)
      printf("Distance to %d: %d\n", i, distance[i]);
}

int main() {
   int Graph[MAX][MAX] = {
      {0, 2, 0, 1, 0},
      {2, 0, 3, 2, 0},
      {0, 3, 0, 0, 1},
      {1, 2, 0, 0, 1},
      {0, 0, 1, 1, 0}
   }, n=5, start=0;
   Dijkstra(Graph, n, start);
   return 0;
}
```