

CN Lab 8

Implement Dijkstra's Algorithm to compute shortest path through a weighted undirected graph

```
def dijkstra(graph, src):
    distance = [and infinite] * n    (for infinite, we use math
    distance[src] = 0                  library's inf constant,
    final_selected = [(src, distance[src])]    i.e. math.inf)
    curr_vertex = src
    while len(final_selected) < n:
        min_vertex, min_dist = -1, infinite
        for neighbour in graph[curr_vertex]:
            vertex, weight = neighbour
            distance[vertex] = min(
                distance[curr_vertex] + weight,
                distance[vertex])
        for vertex in range(n):
            if distance[vertex] <= min_dist and (vertex,
                                                    distance[vertex])
                                                    not in final_selected:
                min_vertex, min_dist = vertex, distance[vertex]
        final_selected.append((min_vertex, min_dist))
        curr_vertex = min_vertex
    print('Vertex\t Distance')
    for v, d in final_selected:
        print(f'{{v}}\t {{d}}')
```

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