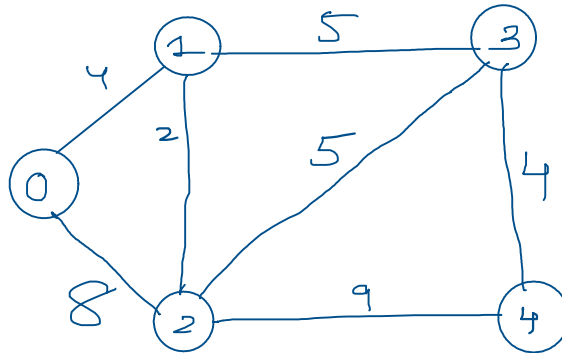
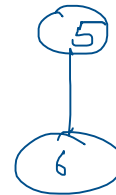
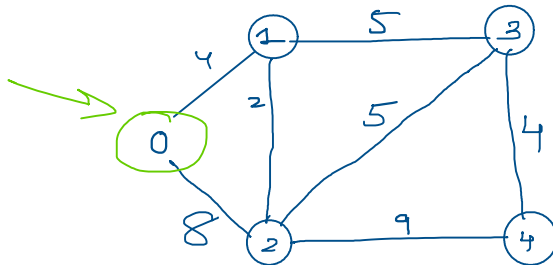


1. Connected Components
2. Greedy Algorithms
3. Dijkstras
4. Kruskals

Graph



Connected Components



visited →

0	1	2	3	4	5	6
T	T	T	T	T	T	T

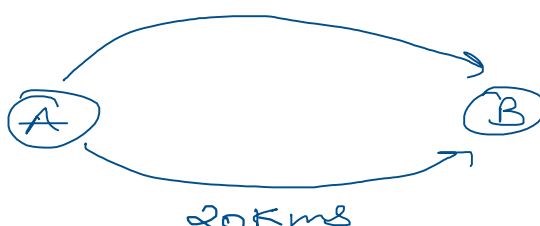
H.W

→ Do the for
" Island Problem
Based on Connected
components

Print → 0 1 2 3 4 →
 5 6

GREEDY ALGORITHMS

15kms → Toll Tax → 50 ₹



DIJKSTRA'S ALGORITHM

Single Source Shortest Path Algorithm -> Gives Shortest path to all nodes from a single node.

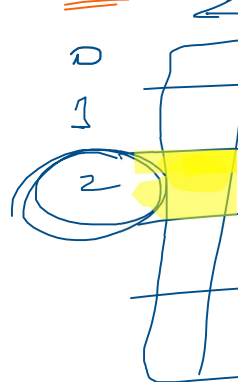
$$4 + 5 = \underline{\underline{9}}$$

$$4 + 2 = \underline{\underline{6}}$$

$\sqrt{v-1}$

v (vertices)

$(v-1)$ Times



Int Distance Array ->

0	1	2	3	4
∞	∞	∞	∞	∞

Boolean Visited Array ->

0	1	2	3	4
F	F	F	F	F

distance[source] = 0; ✓

for (int i = 0; i < v-1; i++)

{ find non visited vertex with min Distance ✓
visited[minVertex] = true;

for (unvisited neighbours of minVertex)

{ newDistance = Distance[minVertex] + Edge(minVertex, neighbour)

if (newDistance < Distance[neighbour])

{ Distance[neighbour] = newDistance;

}