05
WK 45 - 310-056

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SATURDAY


# Distance Vector Alg

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```
class Topology
    def init - (self. array_of_point):
        self.nodes = array_of_point
        self.edges = []
def add_direct_connection (self, p1, p2, cost):
    self.edges.append ((p1, p2, cost))
    self.edges.append ((p2, p1, cost))
def distance_vector_routing (self):
    import collections
    for node in self.nodes:
        dist = collections.defaultdict(int)
        nexthop = { node: node }
        for other_node in self.nodes:
            if other_node != node:
                dist[other_node] = 10000000
```

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for i in range (len(self.nodes)-1):
    for edge in self.edges:
        src, dest, cost = edge
        if dest[src] + cost < dest(dest):
            dest(dest) = dest(src) + cost
            if src == node:
                next_hop(dest) = dest
            elif src in next_hop:
                next_hop(dest) = next_hop(src)
self.print_routing_table(self, node, dest,
                         next_hop):
print(f'Routing table for {node}:')
print('Destination\t cost\t\t next hop')
for dest, cost in dest.items():
    print(f'{dest}\t\t{cost}\t\t\t
          {next_hop(dest)}')
t = Topology(nodes)
t.add_duct_connection('A', 'B', 1)
t.add_duct_connection('A', 'C', 5)
t.add_duct_connection('B', 'C', 3)
```

```
t.add_duct_Connecter('B','E',9)
t.add_duct_Connecter('C','D',4)
t.add_duct_Connecter('D','E',2)
t.distance_Vector_routing()
```