

COLUMBIA UNIVERSITY
CSEEW4119 COMPUTER NETWORKS
Programming Assignment 2 - Routing Protocols Emulation

Abstract:

In this assignment, you will emulate the operation of network layer protocols in a small computer network. The program you write should behave like a single node in the network. You will start several nodes (instances of your program) so that they can send packets to each other as if there are links between them. Running as an independent node, your program should implement a simple version of a Distance-Vector routing protocol as well as a Link State routing protocol.

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Files:

File Name	Purpose
routenode.py	The main program
main.py	The DV part
LSA.py	The LS part
dv_run_r.pdf	Result of DV r part

To Run The Program:

1. Run this in terminal to start the server instance:

```
python3 routenode.py dv r 2 1111 2222 1 3333 50
python3 routenode.py dv r 2 2222 1111 1 3333 2 4444 8
python3 routenode.py dv r 2 3333 1111 50 2222 2 4444 5
python3 routenode.py dv r 2 4444 2222 8 3333 5 last
```

```
python3 routenode.py dv p 2 1111 2222 1 3333 50
python3 routenode.py dv p 2 2222 1111 1 3333 2 4444 8
python3 routenode.py dv p 2 3333 1111 50 2222 2 4444 5
python3 routenode.py dv p 2 4444 2222 8 3333 5 last 60
```

```
python3 routenode.py ls r 2 1111 2222 1 3333 50
python3 routenode.py ls r 2 2222 1111 1 3333 2 4444 8
python3 routenode.py ls r 2 3333 1111 50 2222 2 4444 5
python3 routenode.py ls r 2 4444 2222 8 3333 5 last
```