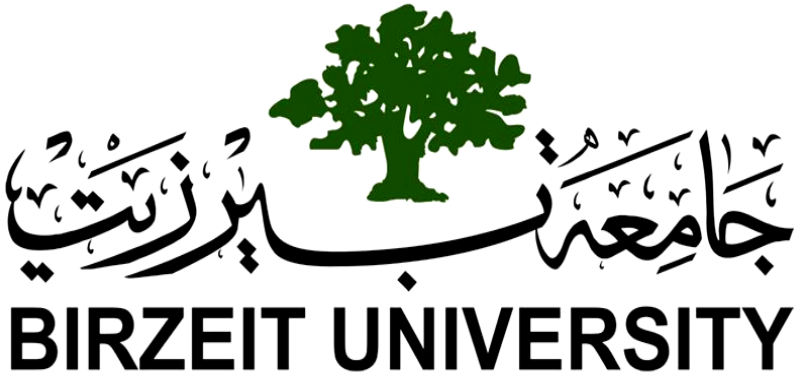

Faculty of Engineering &Technology
Electrical & Computer Engineering Department

ENCS4130

Todo3 Exp4

Dynamic Routing 2 (Link State Routing Protocols) Open Shortest Path First (OSPF)

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Instructor: Ismail Khater

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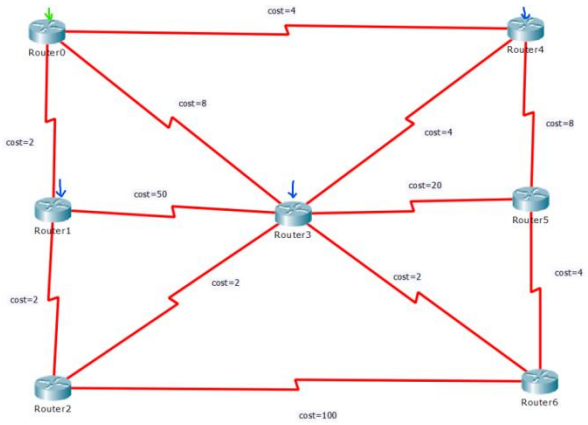
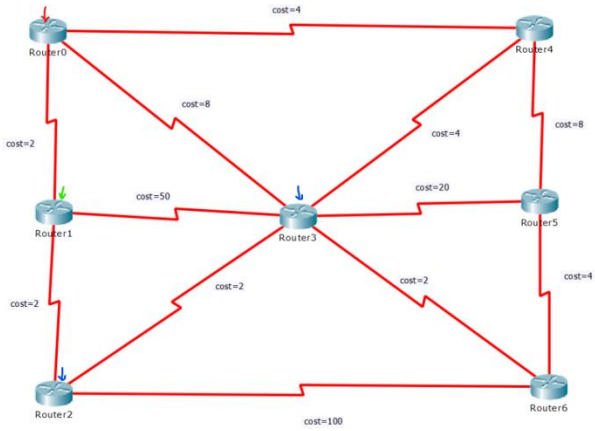
Section: 3

Date: 2022/7/31

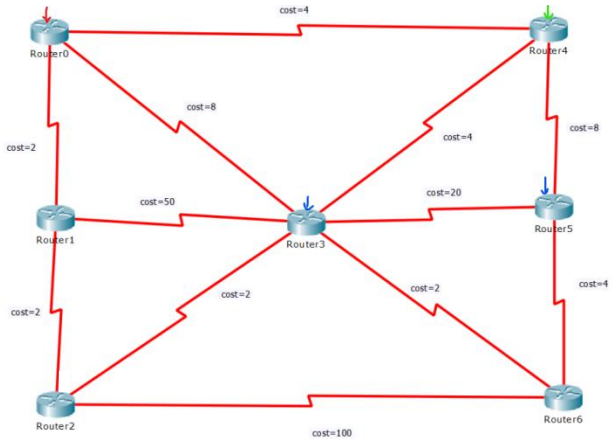
Part1



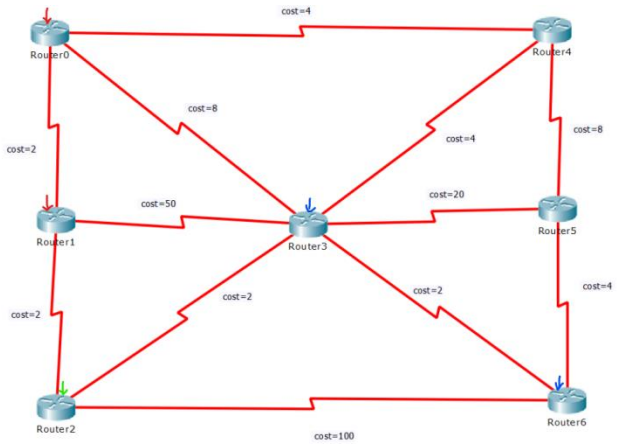
R0: 0
R1: ~~∞~~ 2
R2: ∞
R3: ~~∞~~ 8
R4: ~~∞~~ 4
R5: ∞
R6: ∞



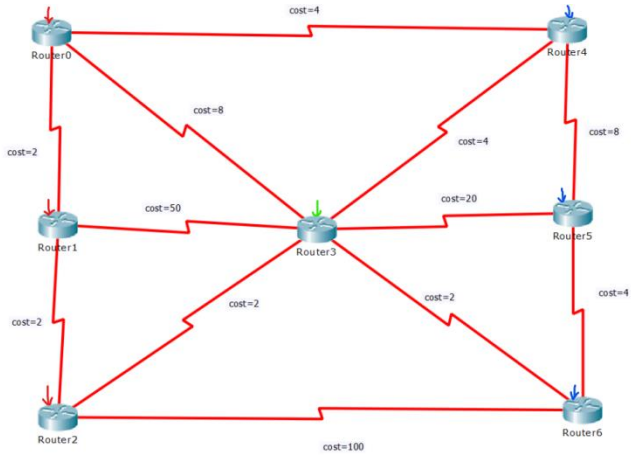
R0: 0
R1: ~~∞~~ 2
R2: ∞ 4
R3: ~~∞~~ 8
R4: ~~∞~~ 4
R5: ∞
R6: ∞



R0: 0
R1: ~~∞~~ 2
R2: ∞ 4
R3: ~~∞~~ 8
R4: ~~∞~~ 4
R5: ~~∞~~ 12
R6: ∞



R0: 0
R1: ~~∞~~ 2
R2: ∞ 4
R3: ~~∞~~ ~~8~~ 6
R4: ~~∞~~ 4
R5: ~~∞~~ 12
R6: ~~∞~~ 104



R0: 0
R1: ~~∞~~ 2
R2: ∞ 4
R3: ~~∞~~ ~~8~~ 6
R4: ~~∞~~ 4
R5: ~~∞~~ 12
R6: ~~∞~~ ~~104~~ 8

Shortest path: R_0 → R_1 → R_2 → R_3 → R_6

Shortest path cost: 8

Part2

5)

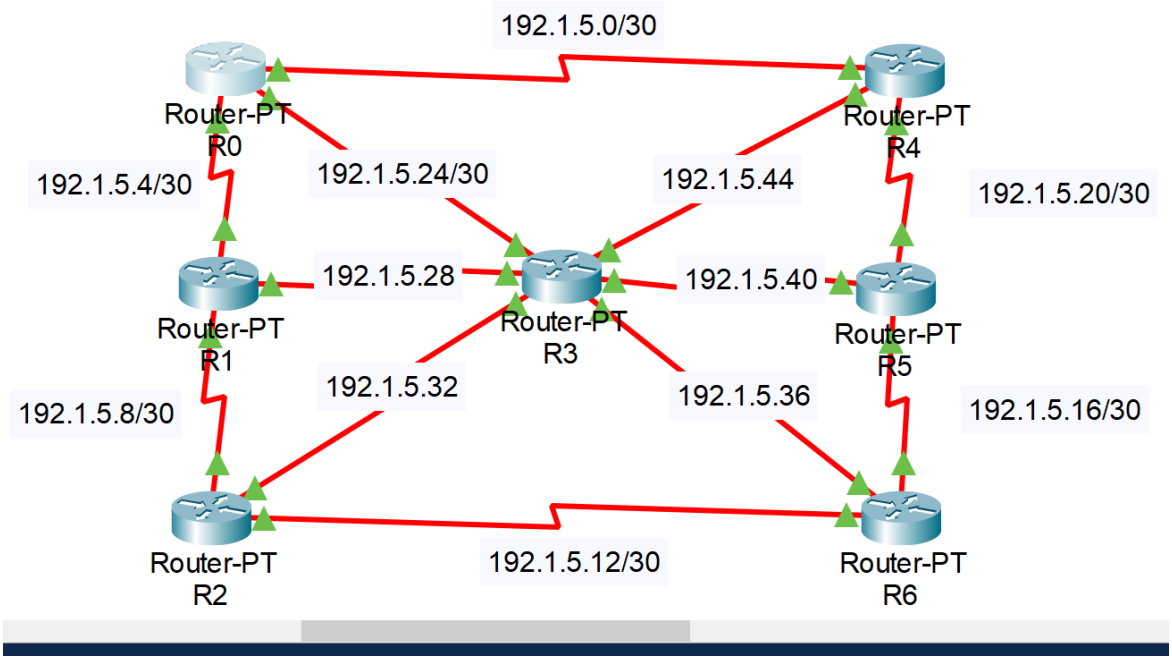
R0

Physical Config CLI Attributes

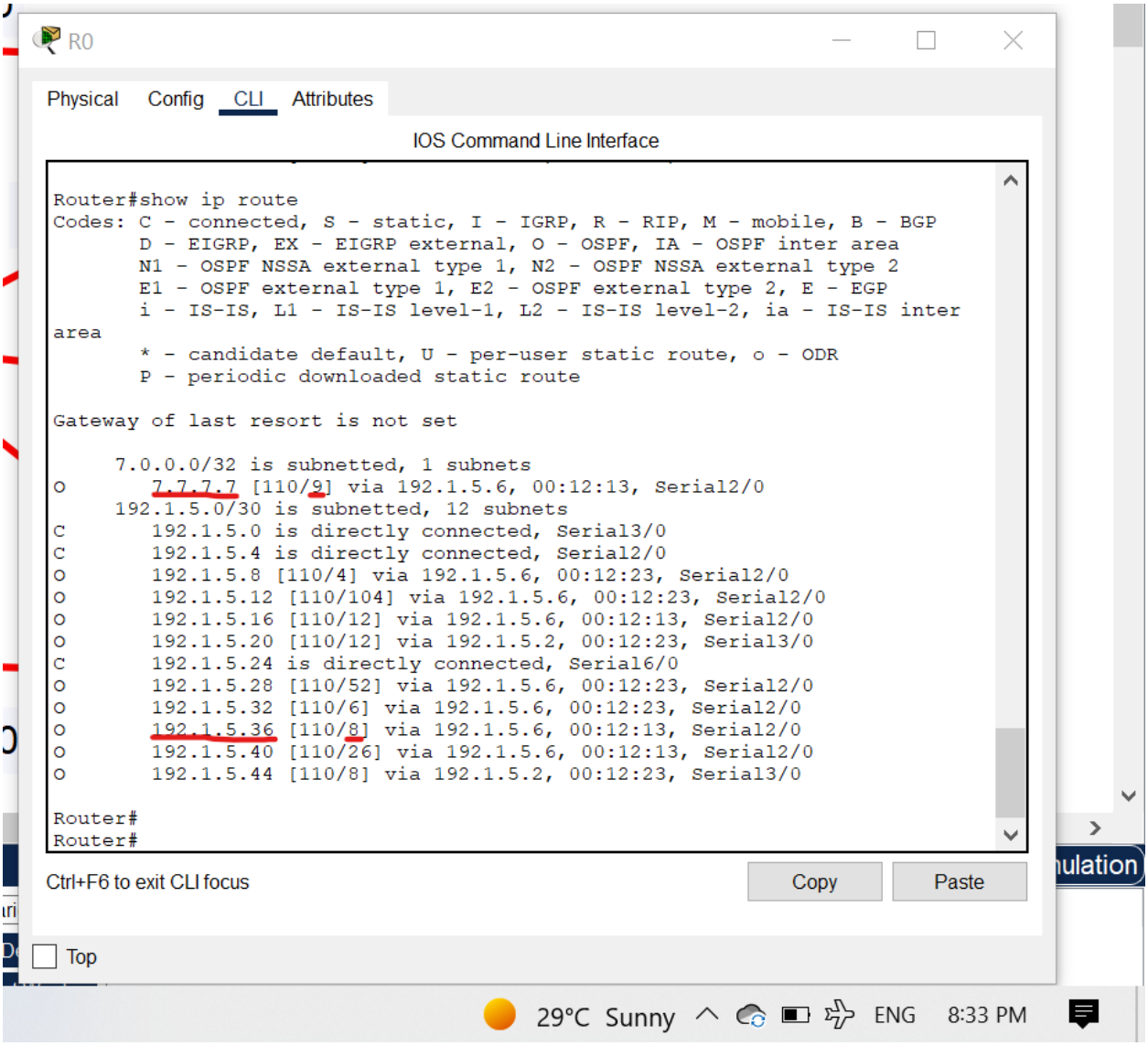
IOS Command Line Interface

```
Router>
Router>e?
enable  exit
Router>en
Router#tr?
traceroute
Router#traceroute 7.7.7.7
Type escape sequence to abort.
Tracing the route to 7.7.7.7

  1    192.1.5.6       12 msec    1 msec     1 msec R1
  2    192.1.5.10      2 msec     1 msec     2 msec R2
  3    192.1.5.34      2 msec     3 msec     1 msec R3
  4    192.1.5.37      3 msec     4 msec     68 msec R6
Router#
Router#
Router#
```

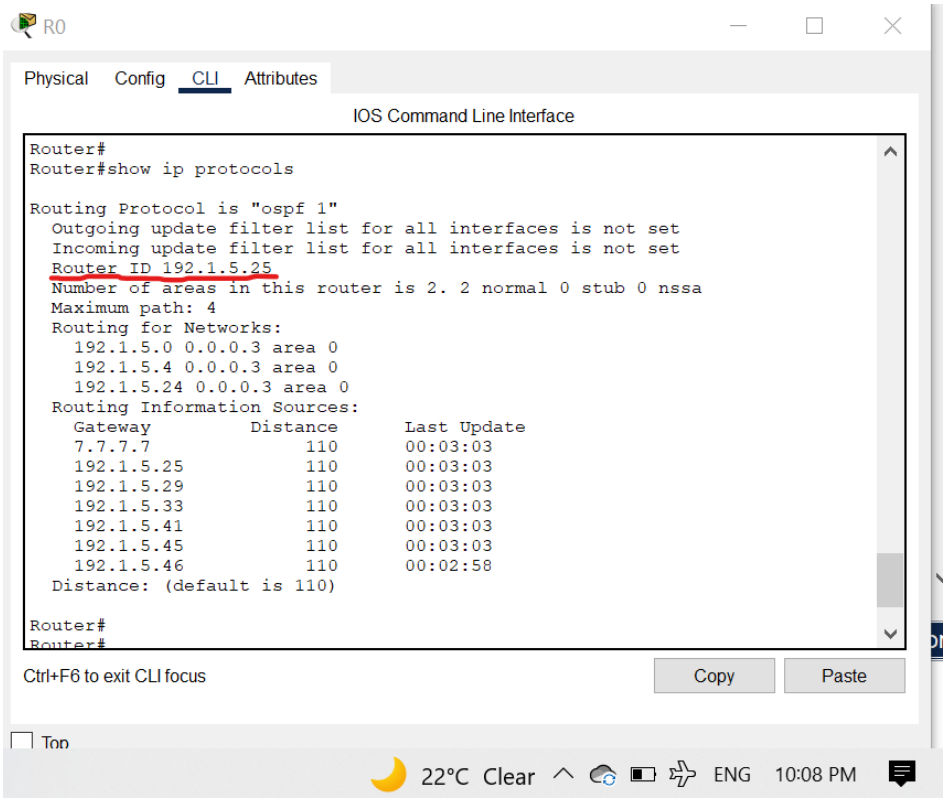


6)

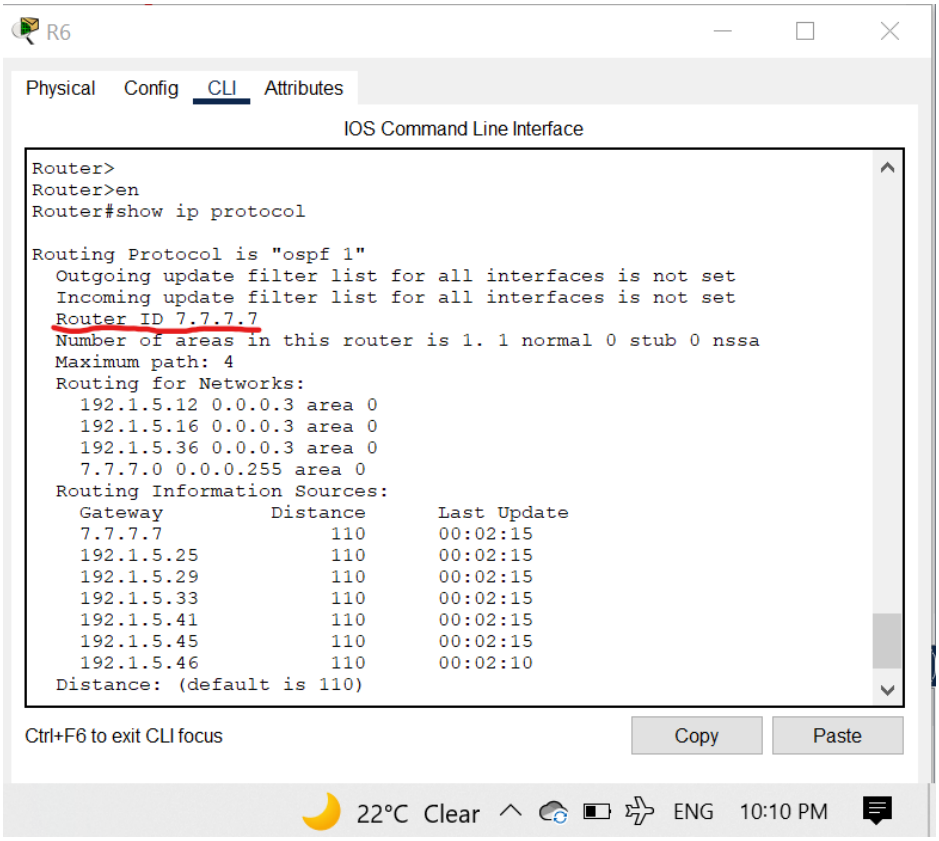


As shown on the image above the cost to get from router0 to router6 is 8 where the packets received on the interface that belong to 192.1.5.36/30 network and to reach loopback0 for router6 you need more 1 → 8 + 1 = 9.

7)



The highest IP on R0 is 192.1.5.25



Because is there an loopback on R6 then its IP is the router ID 7.7.7.7