

EECS 325: Assignment 4

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EECS 325, Dr. WANG

Question 1

(a)

The second best path from E to F is via neighbor B ($E \rightarrow B \rightarrow E \rightarrow F$, with a cost of 5). (If reused of “banned” route $E \rightarrow F$ is not allowed, then the second best path is $E \rightarrow D \rightarrow F$ with a cost of 6. However, it is not explicitly restricted by the question so I guess B is still the best neighbor to go with. I am providing this alternative solution just in case.)

(b)

E 's advertised distance to F is 6.

Route	After E's update (distance, next-hop)
A to F	5, D
B to F	5, C
D to F	3, F

(c)

B 's advertised distance to F is 5.

Route	After B's update (distance, next-hop)
A to F	5, D
C to F	5, F
E to F	6, D

(d)

C 's advertised distance to F is 5.

Route	After C's update (distance, next-hop)
B to F	6, C

Now all routers are following the correct shortest path, as in the next iteration (4th) the table will not update anymore.

(e)

- (1) 1st iteration, update E to F as 6, F .
- (2) 2nd iteration, fill in A to F , B to F , update C to F as 5, F , update E to F as 6, D .
- (3) 3rd iteration, update B to F as 6, C .
- (4) 4th iteration, no more update.

Thus the tables will **NOT** converge faster with *poisoned reverse*, as either implemented or not, both approaches took 4 iterations to converge.

Question 2

- (a) eBGP
- (b) iBGP
- (c) eBGP
- (d) iBGP

- (i) [A], [A-C], [A-D], [A-C-F], [A-D-G]
- (ii) [C], [C-F]
- (iii) [E]
- (iv) [F]