Homework 4 Solutions

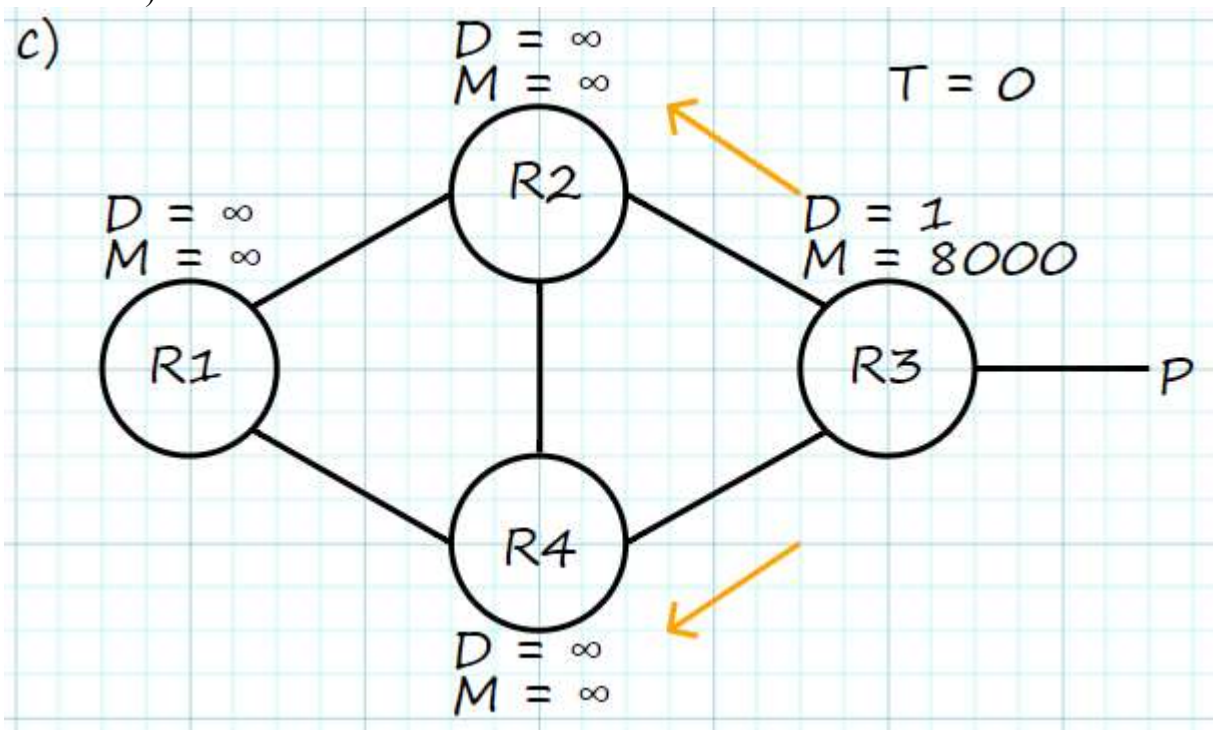
Problem 1.a)

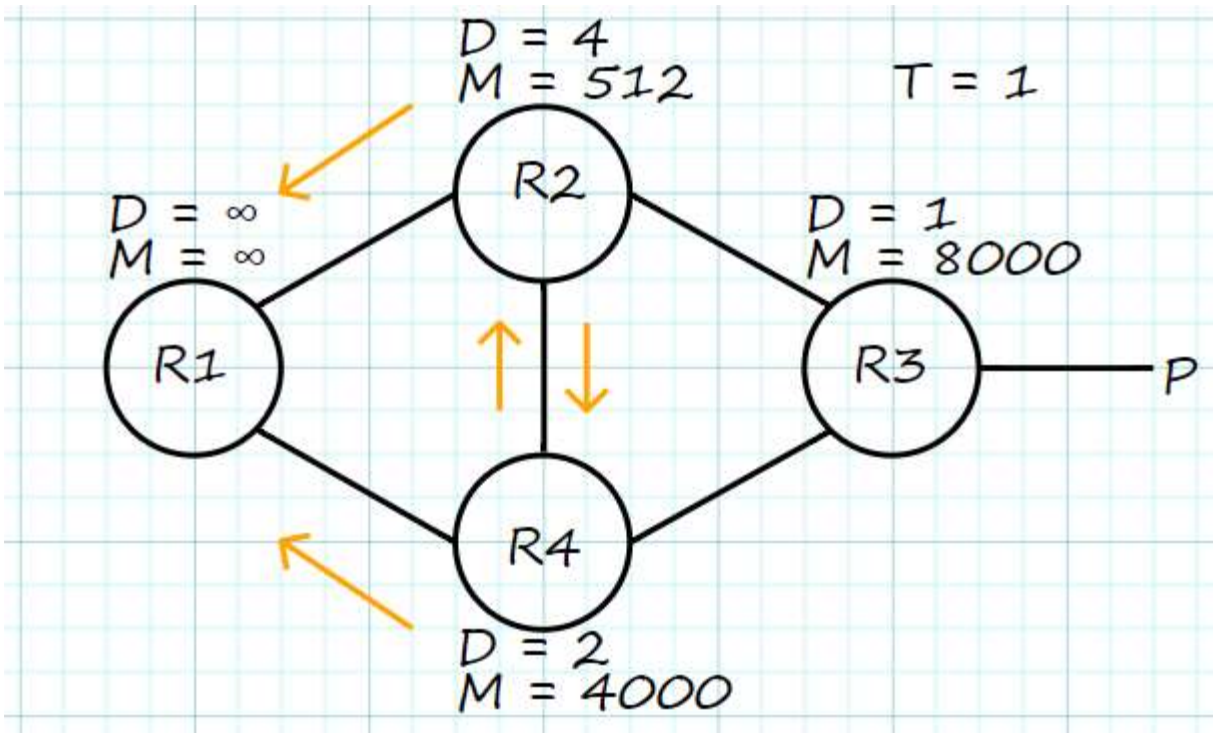
a)Shortest path from R1 to P: R1->R2->R4->R3->P
Smallest Packet w/o Fragmentation: 512 bytes

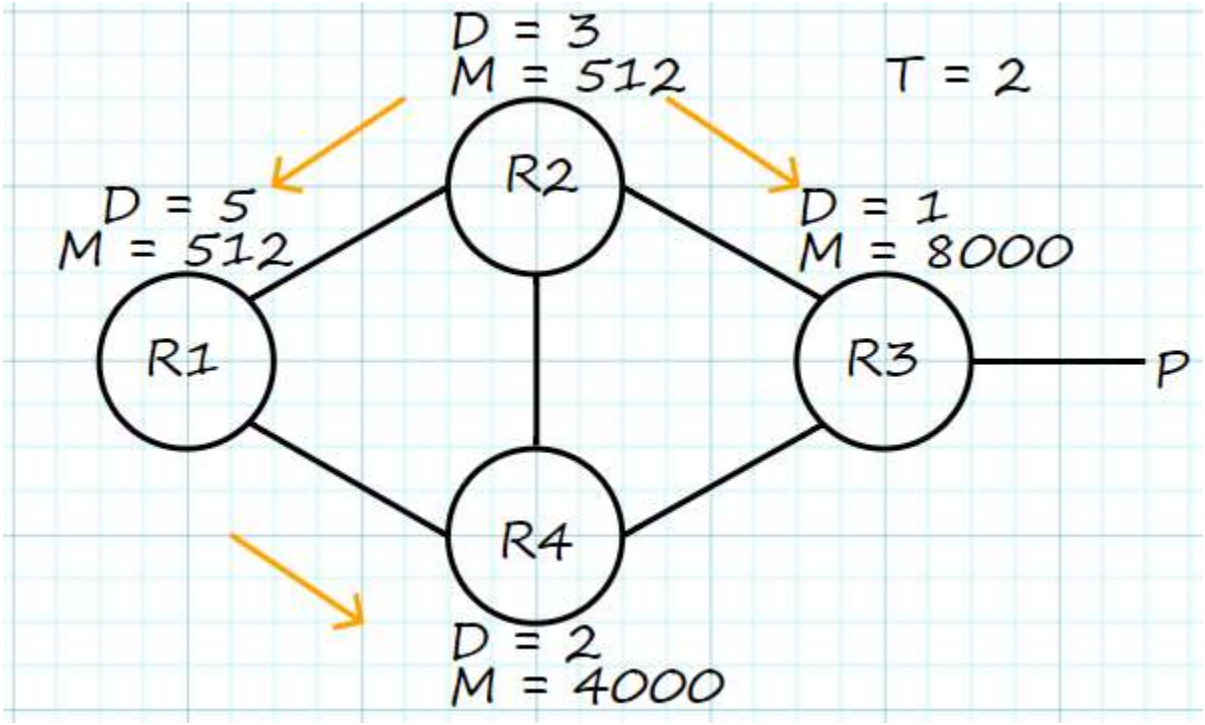
Problem 1.b)

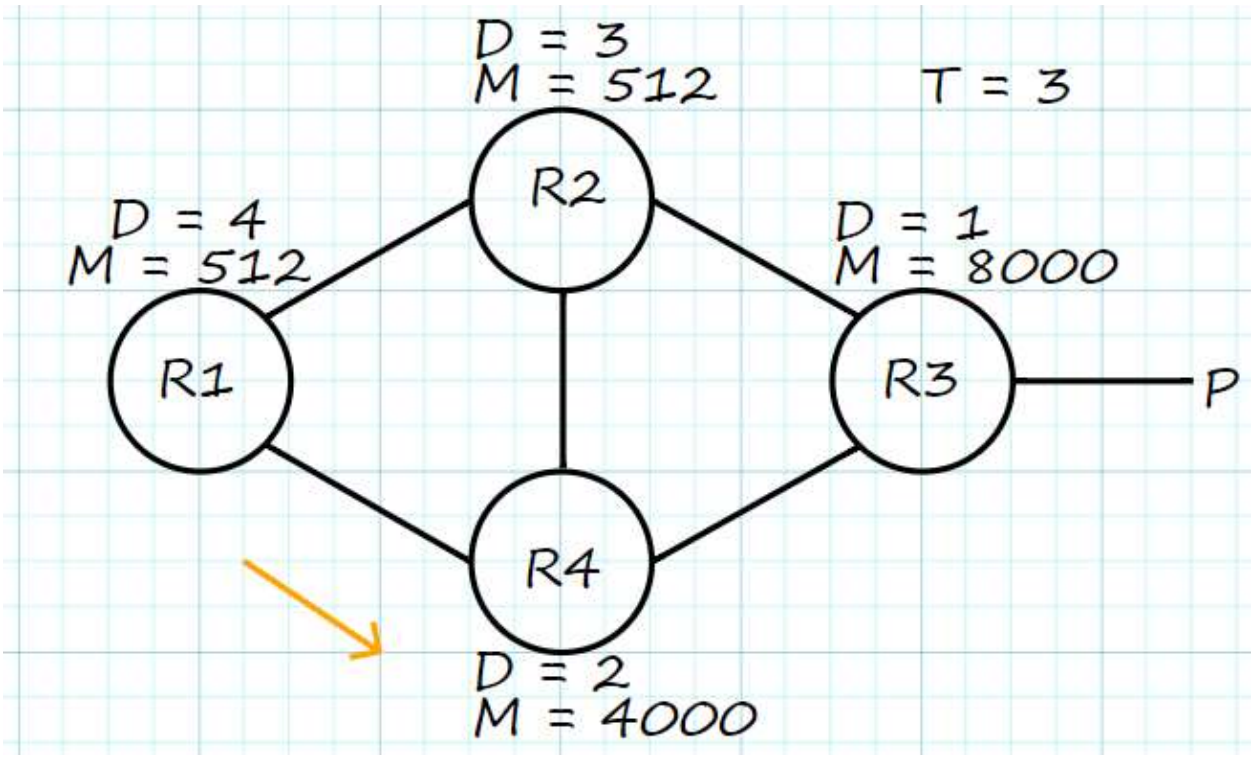
b)Distance(P,R) = min(Distance(P,N) + Distance(R,N))
Let X = argmin(Distance(P,N) + Distance(R,N))
MinMaxPacketSize = min(MinMaxPacketSize(P,X), MinMaxPacketSize(R,X))

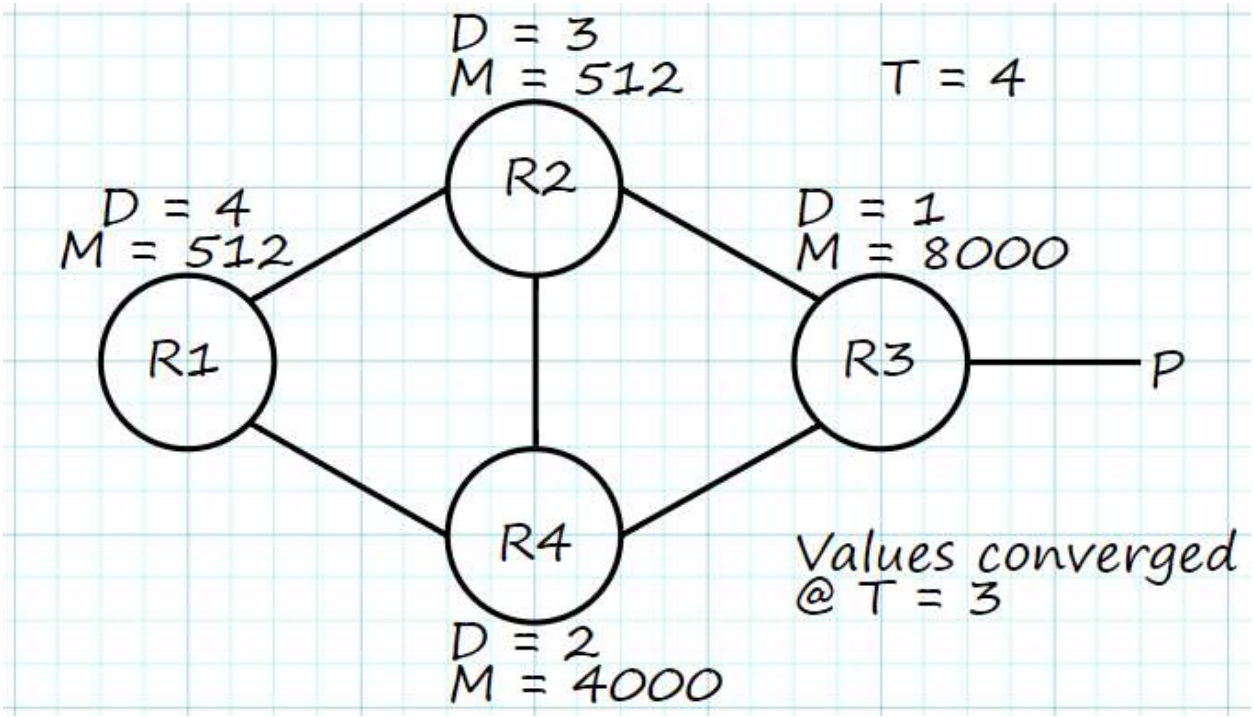
Problem 1. c)



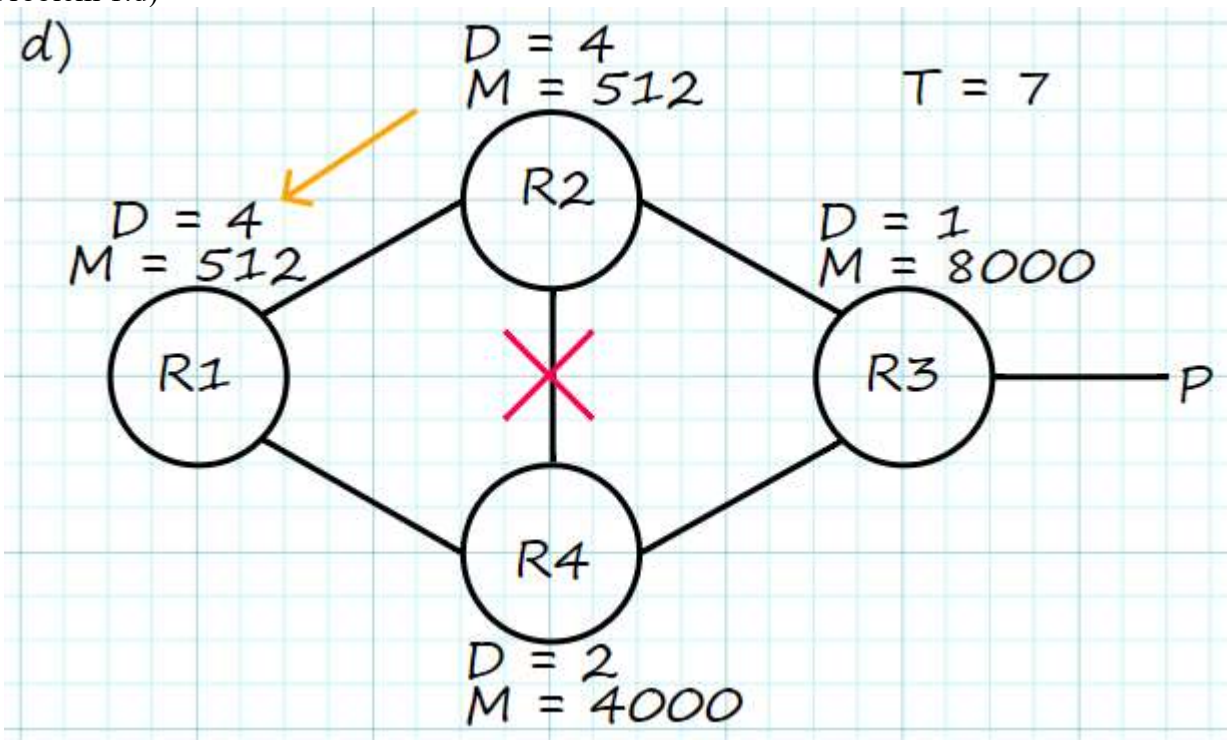

D = 4
M = 512
T = 1
R2
D = ∞
M = ∞
D = 1
M = 8000
R1
R3
P
R4
D = 2
M = 4000

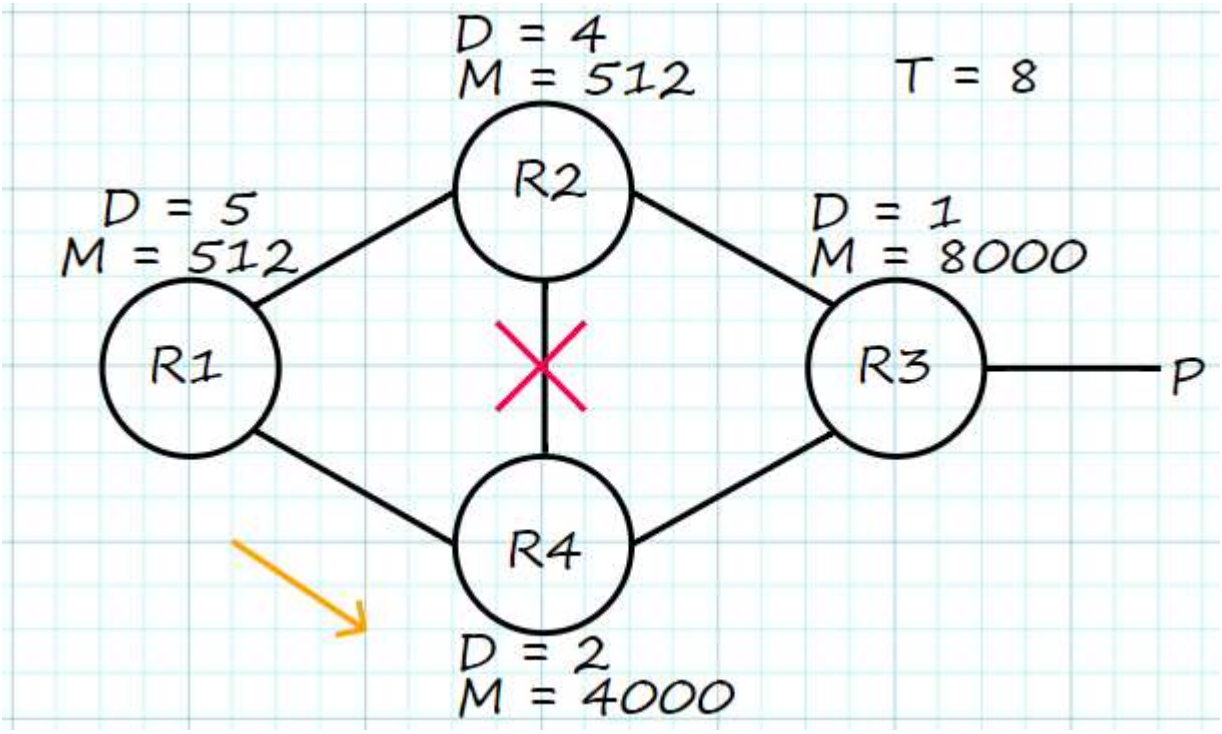

D = 3
M = 512
T = 2
R2
D = 5
M = 512
D = 1
M = 8000
R1
R3
P
R4
D = 2
M = 4000

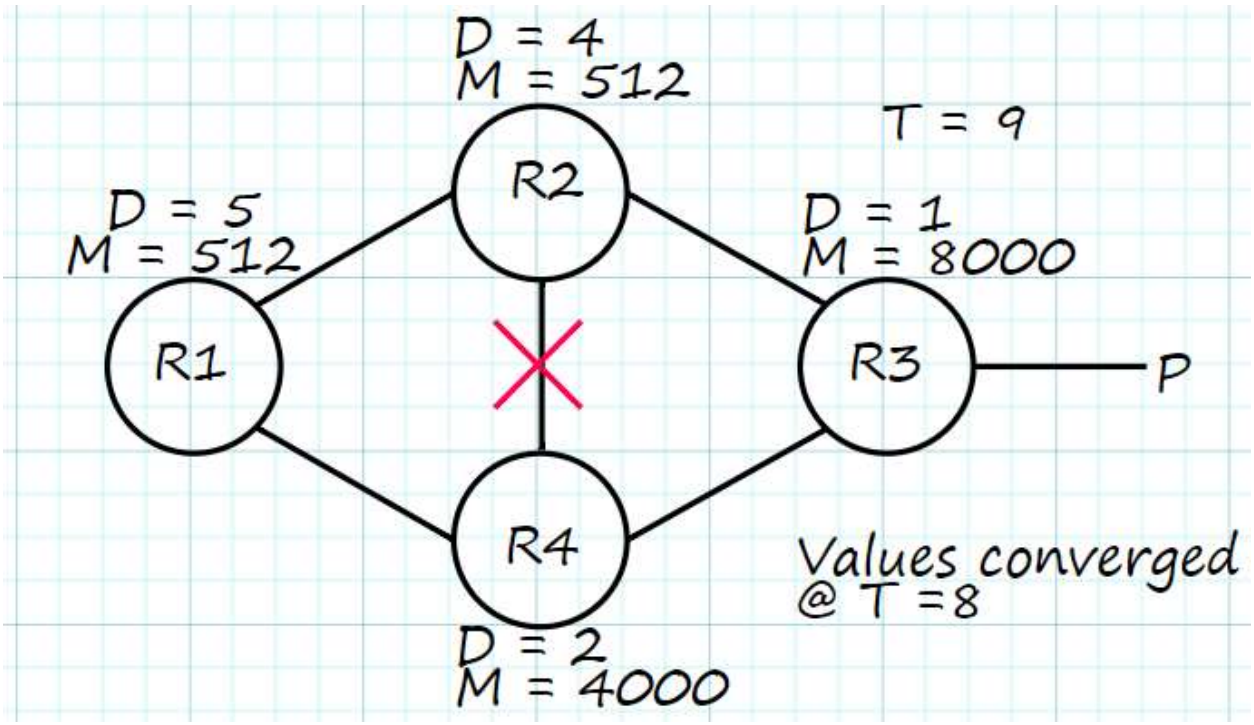

D = 3
M = 512
T = 3
R2
D = 4
M = 512
D = 1
M = 8000
R1
R3
P
R4
D = 2
M = 4000


D = 3
M = 512
T = 4
R2
D = 4
M = 512
D = 1
M = 8000
R1
R3
P
R4
Values converged
@ T = 3
D = 2
M = 4000

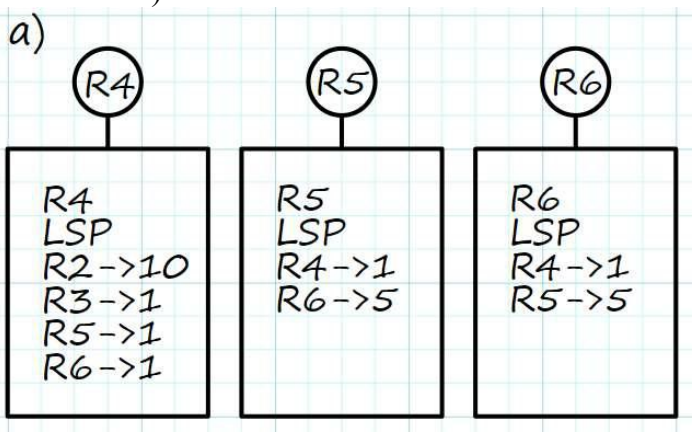
Problem 1.d)


d)
D = 4
M = 512
T = 7
R2
D = 4
M = 512
D = 1
M = 8000
R1
R3
P
R4
D = 2
M = 4000

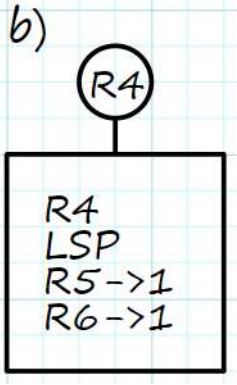

D = 4
M = 512
T = 8
R2
D = 5
M = 512
D = 1
M = 8000
R1
R3
P
R4
D = 2
M = 4000



Problem 2.a)

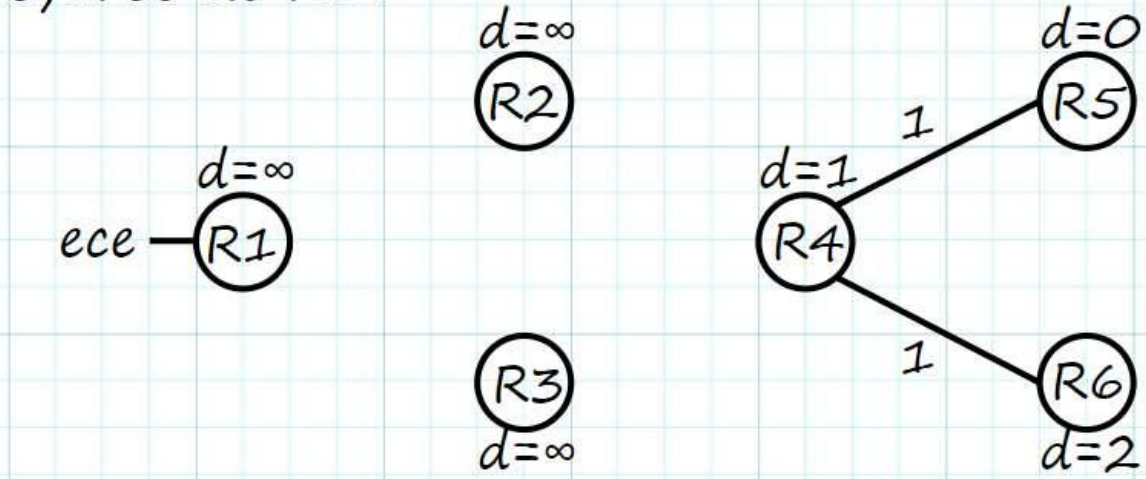


Problem 2.b)

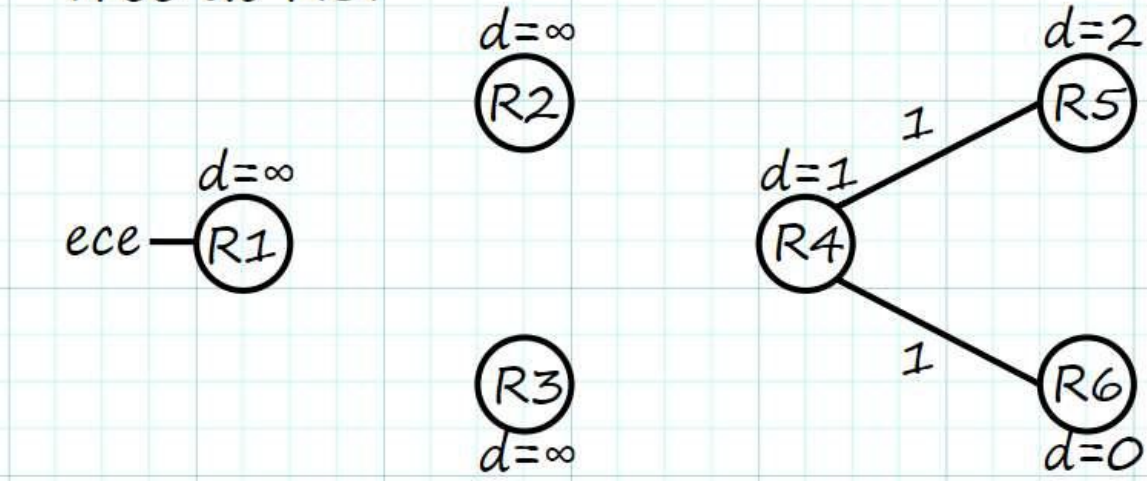


Problem 2.c)

c)Tree at R5:



Tree at R6:



The updated LSP from R4 will update the global view. After Dijkstra's is run, ece will have a distance of ∞ which is unreachable