Kent Mark

11/26/2021

Cpre 489 – Homework 5

Homework 5

**Problem 11**

223.1.17.0/26

223.1.17.128/25

223.1.17.192/28

**Problem 13**

|  |  |
| --- | --- |
| **Destination Address** | **Link Interface** |
| 11100000 00 (224.0/10) | 0 |
| 11100000 01000000 (224.64/16) | 1 |
| 1110000 (224/8) | 2 |
| 11100001 1 (225.128/9) | 3 |
| Otherwise | 3 |

**Problem 18**

1. Home addresses: 192.168.1.1, 192.168.1.2, 192.168.1.3, and the router interface is 192.168.1.4

|  |  |
| --- | --- |
| WAN Side | LAN Side |
| 24.34.112.235, 4000 | 192.168.1.1, 3345 |
| 24.34.112.235, 4001 | 192.168.1.1, 3346 |
| 24.34.112.135, 4002 | 192.168.1.2, 3445 |
| 24.34.112.135, 4003 | 192.168.1.2, 3446 |
| 24.34.112.135, 4004 | 192.168.1.3, 3545 |
| 24.34.112.135, 4005 | 192.168.1.3, 3546 |

**Problem 3**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Step | N’ | D(t), p(t) | D(u), p(u) | D(v), p(v) | D(w), p(w) | D(y), p(y) | D(z), p(z) |
|  |  |  |  |  |  |  |  |
| 0 | x | ∞ | ∞ | 3, x | 6, x | 6, x | 8, x |
| 1 | xu | 7, v | 6, v | 3, x | 6, x | 6, x | 8, x |
| 2 | xvu | 7, v | 6, v | 3, x | 6, x | 6, x | 8, x |
| 3 | xvuw | 7, v | 6, v | 3, x | 6, x | 6, x | 8, x |
| 4 | xvuwy | 7, v | 6, v | 3, x | 6, x | 6, x | 8, x |
| 5 | xvuwyt | 7, v | 6, v | 3, x | 6, x | 6, x | 8, x |
| 6 | xvuwytz | 7, v | 6, v | 3, x | 6, x | 6, x | 8, x |

**Problem 5**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Cost to |  |  |  |  |
|  |  | u | v | x | y | z |
| From | v | ∞ | ∞ | ∞ | ∞ | ∞ |
|  | x | ∞ | ∞ | ∞ | ∞ | ∞ |
|  | z | ∞ | 6 | 2 | ∞ | 0 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Cost to |  |  |  |  |
|  |  | u | v | x | y | z |
| From | v | 1 | 0 | 3 | ∞ | 6 |
|  | x | ∞ | 3 | 0 | 3 | 2 |
|  | z | 7 | 5 | 2 | 5 | 0 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Cost to |  |  |  |  |
|  |  | u | v | x | y | z |
| From | v | 1 | 0 | 3 | 3 | 5 |
|  | x | 4 | 3 | 0 | 3 | 2 |
|  | z | 6 | 5 | 2 | 5 | 0 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Cost to |  |  |  |  |
|  |  | u | v | x | y | z |
| From | v | 1 | 0 | 3 | 3 | 5 |
|  | x | 4 | 3 | 0 | 3 | 2 |
|  | z | 6 | 5 | 2 | 5 | 0 |

**Problem 11**

|  |  |
| --- | --- |
| Router z | Informs w, |
| Informs y, |
| Router w | Informs y, |
| Informs z, |
| Router y | Informs w, |
| Informs z, |

1. There will be a count to infinity problem.
2. You have to cut the link between y and z.

**Problem 14**

1. eBGP
2. iBGP
3. eBGP
4. iBGP

**Problem 5**

If we divide 10011 into 1010101010 0000, we get 1011011100, with a remainder of R=0100.