Communication networks – theoretical exercise 2

1. The root of the network is bridge 6 (because it has the smallest ID).

|  |  |  |
| --- | --- | --- |
| Bridge | Root port | Designated ports |
| 6 | - | 1 |
| 11 | 1\* | - |
| 19 | 1 | 2, 3 |
| 23 | 2 | 1 |
| 35 | 2 | 1 |
| 42 | 2 | 1 |

\* since bridge 11 has no designated ports, its root port is blocked and therefore this bridge should be removed from the network

1. Yes we can!

In the current configuration, the path of the message is:

C 🡪 19 🡪 A 🡪 23 🡪 F 🡪 43 🡪 E

By changing bridge 11 ID to 4 (for example; any ID smaller than 6 would work), the new SP root would be 4. In that case, when sending a message from C to E we can get a shorter message path:

C 🡪 35 🡪 D 🡪 4 (originally 11) 🡪 E

Namely, the message goes through 2 bridges instead of 3, so indeed we got an improvement. Great success!