**Worksheet 14 - Virtual Circuits**

Let’s say a network is made up of 4 routers R1, R2, R3, R4. Assume a source S wants to setup a virtual circuit to destination D. For each of the cases below fill the VC table at each router with one entry that will setup a virtual circuit from S to D.

Maximum number of virtual circuits at each router is 5 (with IDs 1 to 5).

VC#s already in use at

R1 - 1, 2, 3, 4

R2 - 2, 3, 4, 5

R3 - 1, 3, 4, 5

R4 - 1, 2, 4, 5

Pick the path with shortest number of hops from S to D. If there are multiple paths, pick any path.



**R1**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R2**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R3**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R4**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |



**R1**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R2**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R3**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R4**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |



**R1**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R2**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R3**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R4**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |



**R1**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R2**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R3**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |

**R4**

|  |  |  |  |
| --- | --- | --- | --- |
| Interface# | VCI | Interface# | VCI |
|  |  |  |  |