**Activity 7: Learning by doing-1**

|  |  |
| --- | --- |
| **Input Connection (Quick-Find)** | **Array id[]** |
|  | [0,1,2,3,4,5,6,7,8,9] |
| 9-0 | [0,1,2,3,4,5,6,7,8,0] |
| 3-4 | [0,1,2,4,4,5,6,7,8,0] |
| 5-8 | [0,1,2,4,4,8,6,7,8,0] |
| 7-2 | [0,1,2,4,4,8,6,2,8,0] |
| 2-1 | [0,1,1,4,4,8,6,1,8,0] |
| 5-7 | [0,1,1,4,4,1,6,1,1,0] |
| 0-3 | [4,1,1,4,4,1,6,1,1,4] |
| 4-2 | [1,1,1,1,1,1,6,1,1,1] |

|  |  |
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| **Input Connection (Quick-Union)** | **Array id[]** |
|  | [0, 1, 2, 3, 4, 5, 6, 7, 8, 9] |
| 9-0 | [0, 1, 2, 3, 4, 5, 6, 7, 8, 0] |
| 3-4 | [0, 1, 2, 4, 4, 5, 6, 7, 8, 0] |
| 5-8 | [0, 1, 2, 4, 4, 8, 6, 7, 8, 0] |
| 7-2 | [0, 1, 2, 4, 4, 8, 6, 2, 8, 0] |
| 2-1 | [0, 1, 1, 4, 4, 8, 6, 2, 8, 0] |
| 5-7 | [0, 1, 1, 4, 4, 8, 6, 2, 1, 0] |
| 0-3 | [4, 1, 1, 4, 4, 8, 6, 2, 1, 0] |
| 4-2 | [4, 1, 1, 4, 1, 8, 6, 2, 1, 0] |

|  |  |
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| **Input Connection (Weighted Quick-Union)** | **Array id[]** |
|  | [0, 1, 2, 3, 4, 5, 6, 7, 8, 9] |
| 9-0 | [9, 1, 2, 3, 4, 5, 6, 7, 8, 9] |
| 3-4 | [9, 1, 2, 3, 3, 5, 6, 7, 8, 9] |
| 5-8 | [9, 1, 2, 3, 3, 5, 6, 7, 5, 9] |
| 7-2 | [9, 1, 7, 3, 3, 5, 6, 7, 5, 9] |
| 2-1 | [9, 7, 7, 3, 3, 5, 6, 7, 5, 9] |
| 5-7 | [9, 7, 7, 3, 3, 7, 6, 7, 5, 9] |
| 0-3 | [9, 7, 7, 9, 3, 7, 6, 7, 5, 9] |
| 4-2 | [9, 7, 7, 9, 3, 7, 6, 7, 5, 7] |

|  |  |
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| **Input Connection (Weighted Quick-Union Path Compression)** | **Array id[]** |
|  | [0, 1, 2, 3, 4, 5, 6, 7, 8, 9] |
| 9-0 | [9, 1, 2, 3, 4, 5, 6, 7, 8, 9] |
| 3-4 | [9, 1, 2, 3, 3, 5, 6, 7, 8, 9] |
| 5-8 | [9, 1, 2, 3, 3, 5, 6, 7, 5, 9] |
| 7-2 | [9, 1, 7, 3, 3, 5, 6, 7, 5, 9] |
| 2-1 | [9, 7, 7, 3, 3, 5, 6, 7, 5, 9] |
| 5-7 | [9, 7, 7, 3, 3, 7, 6, 7, 5, 9] |
| 0-3 | [9, 7, 7, 9, 3, 7, 6, 7, 5, 9] |
| 4-2 | [9, 7, 7, 9, 9, 7, 6, 7, 5, 7] |