**TUGAS KELOMPOK SISTEM CERDAS**

**KELOMPOK BSEARCHING DJIKSTRA**

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**Disusun oleh:**

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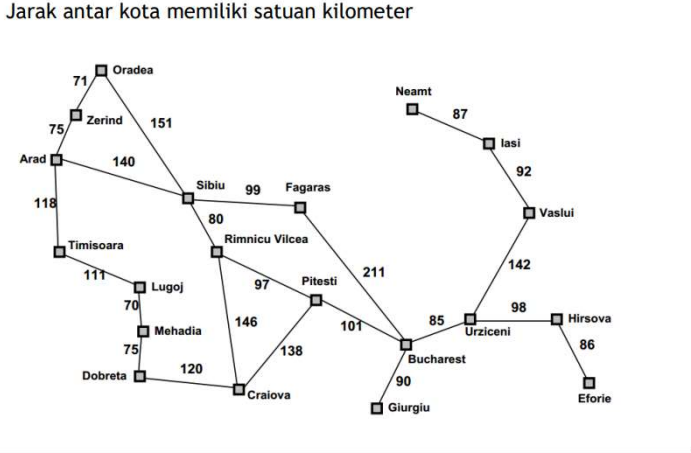
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**PRODI INFORMATIKA**

**UNIVERSITAS SANATA DHARMA SEMESTER GASAL 2022/2022**

1. Dalam membangun jaringan fiber-optic, tim juga memerlukan informasi jalur terpendek untuk mengirim kebutuhan-kebutuhan logistic. Tentukan route terpendek dengan metode Dijsktra untuk mengirim logistic dari Timisoara ke Hirsova.



Jawaban :

* Iterasi 1

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [0 + 118] = [188, T] | Temporary |
| 3 | [0 + 111] = [111, T] | Temporary |

* Iterasi 2

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [111 + 70] = [181, L] | Temporary |

* Iterasi 3

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [181 + 75] = [256, M] | Temporary |

* Iterasi 4

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [256 + 120] = [301, D] | Temporary |

* Iterasi 5

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [301, C] | Temporary |
| 8 | [301 + 138] = [439, C] | Temporary |

* Iterasi 6

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [301, Cr] | Temporary |
| 8 | [301 + 138] = [439, Cr] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |

* Iterasi 7

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr] | Temporary |
| 8 | [301 + 138] = [439, Cr] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [193+ 71] = [264, Z] | Temporary |

* Iterasi 8

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr] | Temporary |
| 8 | [301 + 138] = [439, Cr] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |

* Iterasi 9

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr] | Temporary |
| 8 | [301 + 138] = [439, Cr] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A]  [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [258 + 80] = [338, S] | Temporary |

* Iterasi 10

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr]  [258 + 80] = [338, S] | Temporary |
| 8 | [301 + 138] = [439, Cr] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [338, R] | Permanent |

* Iterasi 11

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr]  [258 + 80] = [338, S] | Temporary |
| 8 | [301 + 138] = [439, Cr]  [338 + 97] = [435, R] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [338, R] | Permanent |
| 2.3.4 | [338 + 97] = [435, R] | Temporary |
|  |  |  |
|  |  |  |

* Iterasi 12

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr]  [258 + 80] = [338, S] | Temporary |
| 8 | [301 + 138] = [439, Cr]  [338 + 97] = [435, R] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [338, R] | Permanent |
| 2.3.4 | [435, P] | Permanent |
| 2.3.5 | [435 + 101] = [536, P] | Temporary |

* Iterasi 13

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr]  [258 + 80] = [338, S] | Temporary |
| 8 | [301 + 138] = [439, Cr]  [338 + 97] = [435, R] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [338, R] | Permanent |
| 2.3.4 | [435, P] | Permanent |
| 2.3.5 | [536, B] | Permanent |
| 2.3.6 | [536 + 211] = [747, B] | Temporary |
| 2.3.7 | [536 + 85] = [621, B] | Temporary |
| 2.3.8 | [536 + 90] = [626, B] | Temporary |

* Iterasi 14

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr]  [258 + 80] = [338, S] | Temporary |
| 8 | [301 + 138] = [439, Cr]  [338 + 97] = [435, R] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [338, R] | Permanent |
| 2.3.4 | [435, P] | Permanent |
| 2.3.5 | [536, B] | Permanent |
| 2.3.6 | [536 + 211] = [747, B] | Temporary |
| 2.3.7 | [536 + 85] = [621, B] | Temporary |
| 2.3.8 | [536 + 90] = [626, B] | Temporary |
|  |  |  |
| 2.3.7.1 | [621, U] | Permanent |
| 2.3.7.2 | [621 + 98] = [719, U] | Temporary |

* Iterasi 15

|  |  |  |
| --- | --- | --- |
| Node | Label | Status |
| 1 | [0, - ] | Permanent |
| 2 | [118, T] | Temporary |
| 3 | [111, L] | Permanent |
| 4 | [181, M] | Permanent |
| 5 | [256, D] | Permanent |
| 6 | [301, C] | Permanent |
| 7 | [301 + 146] = [447, Cr]  [258 + 80] = [338, S] | Temporary |
| 8 | [301 + 138] = [439, Cr]  [338 + 97] = [435, R] | Temporary |
|  |  |  |
| 2.1 | [118, A] | Permanent |
| 2.2 | [118 + 75] = [193, A] | Temporary |
| 2.3 | [118 + 140] = [258, A] | Temporary |
|  |  |  |
| 2.2.1 | [193, Z] | Permanent |
| 2.2.2 | [264, O] | Permanent |
| 2.2.3 | [264 + 151] = [415, O] | Temporary |
|  |  |  |
| 2.3.1 | [258, S] | Permanent |
| 2.3.2 | [258 + 99] = [357, S] | Temporary |
| 2.3.3 | [338, R] | Permanent |
| 2.3.4 | [435, P] | Permanent |
| 2.3.5 | [536, B] | Permanent |
| 2.3.6 | [536 + 211] = [747, B] | Temporary |
| 2.3.7 | [536 + 85] = [621, B] | Temporary |
| 2.3.8 | [536 + 90] = [626, B] | Temporary |
|  |  |  |
| 2.3.7.1 | [621, U] | Permanent |
| 2.3.7.2 | [719, H] |  |