Dijkstra's algorithm

Ex01

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Step | N | D(1)  p(1) | D(2)  p(2) | D(3)  p(3) | D(4)  p(4) | D(5)  p(5) | D(6)  p(6) | D(7)  p(7) |
| 0 | 1 | 0 | 2, „1“ | ∞ | 1, „1“ | ∞ | ∞ | ∞ |
| 1 | 1, 4 |  |  | 3, „4“ |  | 3, „4“ | 9, „4“ | 5, „4“ |
| 2 | 1, 4, 2 |  |  |  |  |  |  |  |
| 3 | 1, 4, 2, 3 |  |  |  |  |  | 8, „3“ |  |
| 4 | 1, 4, 2, 3, 5 |  |  |  |  |  |  |  |
| 5 | 1, 4, 2, 3, 5, 7 |  |  |  |  |  | 6, „7“ |  |
| 6 | 1, 4, 2, 3, 5, 7, 6 |  |  |  |  |  |  |  |

Ex02

|  |  |  |  |
| --- | --- | --- | --- |
| City | Known | D(v) | D(p) |
| Philadelphia | T | Start |  |
| Pittsburgh | T | 320 | Philadelphia |
| Cleveland | T | 450 | Philadelphia, Pitsburgh |
| Toledo | T | 570 | Clevland |
| Detroid | T | 630 | Toledo |
| Ann Arbor | T | 610 | Toledo |
| Chicago | T | 870, 860 | Ann Arbor, Indianapolis |
| Fort Wayne | T | 800 | Indianapolis |
| Indianapolis | T | 680 | Columbus |
| Columbus | T | 500 | Pittsburgh |