File 1 Shortest Path Output

10

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 5 | 8 | 7 | 9 | 6 | 7 | 8 | 6 | 2 |
| 5 | 0 | 8 | 2 | 4 | 7 | 5 | 4 | 9 | 3 |
| 8 | 8 | 0 | 6 | 8 | 4 | 3 | 7 | 2 | 8 |
| 7 | 2 | 6 | 0 | 2 | 9 | 3 | 6 | 7 | 5 |
| 9 | 4 | 8 | 2 | 0 | 10 | 5 | 8 | 9 | 7 |
| 6 | 7 | 4 | 9 | 10 | 0 | 7 | 10 | 6 | 4 |
| 7 | 5 | 3 | 3 | 5 | 7 | 0 | 9 | 4 | 8 |
| 8 | 4 | 7 | 6 | 8 | 10 | 9 | 0 | 9 | 6 |
| 6 | 9 | 2 | 7 | 9 | 6 | 4 | 9 | 0 | 8 |
| 2 | 3 | 8 | 5 | 7 | 4 | 8 | 6 | 8 | 0 |

File 2 Shortest Path Output

20

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 9 | 3 | 9 | 1 | 7 | 5 | 4 | 7 | 12 | 10 | 7 | 8 | 4 | 5 | 8 | 3 | 2 | 4 | 5 |
| 9 | 0 | 10 | 4 | 10 | 7 | 11 | 9 | 11 | 13 | 13 | 13 | 7 | 11 | 4 | 8 | 11 | 7 | 10 | 10 |
| 3 | 10 | 0 | 6 | 2 | 4 | 3 | 3 | 4 | 13 | 7 | 4 | 7 | 1 | 7 | 5 | 6 | 5 | 1 | 4 |
| 9 | 4 | 6 | 0 | 8 | 9 | 9 | 9 | 10 | 12 | 13 | 10 | 6 | 7 | 8 | 8 | 12 | 7 | 7 | 9 |
| 1 | 10 | 2 | 8 | 0 | 6 | 5 | 5 | 6 | 13 | 9 | 6 | 7 | 3 | 6 | 7 | 4 | 3 | 3 | 4 |
| 7 | 7 | 4 | 9 | 6 | 0 | 5 | 7 | 8 | 9 | 11 | 8 | 3 | 5 | 3 | 1 | 10 | 6 | 5 | 6 |
| 5 | 11 | 3 | 9 | 5 | 5 | 0 | 6 | 5 | 10 | 6 | 7 | 4 | 2 | 8 | 6 | 8 | 7 | 4 | 1 |
| 4 | 9 | 3 | 9 | 5 | 7 | 6 | 0 | 7 | 16 | 10 | 7 | 10 | 4 | 5 | 8 | 7 | 2 | 4 | 7 |
| 7 | 11 | 4 | 10 | 6 | 8 | 5 | 7 | 0 | 12 | 9 | 6 | 6 | 3 | 11 | 8 | 6 | 9 | 3 | 6 |
| 12 | 13 | 13 | 12 | 13 | 9 | 10 | 16 | 12 | 0 | 16 | 15 | 6 | 12 | 12 | 8 | 15 | 14 | 14 | 9 |
| 10 | 13 | 7 | 13 | 9 | 11 | 6 | 10 | 9 | 16 | 0 | 10 | 10 | 6 | 9 | 12 | 13 | 12 | 8 | 7 |
| 7 | 13 | 4 | 10 | 6 | 8 | 7 | 7 | 6 | 15 | 10 | 0 | 9 | 5 | 11 | 9 | 10 | 9 | 3 | 6 |
| 8 | 7 | 7 | 6 | 7 | 3 | 4 | 10 | 6 | 6 | 10 | 9 | 0 | 6 | 6 | 2 | 11 | 9 | 8 | 3 |
| 4 | 11 | 1 | 7 | 3 | 5 | 2 | 4 | 3 | 12 | 6 | 5 | 6 | 0 | 8 | 6 | 7 | 6 | 2 | 3 |
| 5 | 4 | 7 | 8 | 6 | 3 | 8 | 5 | 11 | 12 | 9 | 11 | 6 | 8 | 0 | 4 | 7 | 3 | 8 | 9 |
| 8 | 8 | 5 | 8 | 7 | 1 | 6 | 8 | 8 | 8 | 12 | 9 | 2 | 6 | 4 | 0 | 11 | 7 | 6 | 5 |
| 3 | 11 | 6 | 12 | 4 | 10 | 8 | 7 | 6 | 15 | 13 | 10 | 11 | 7 | 7 | 11 | 0 | 5 | 7 | 8 |
| 2 | 7 | 5 | 7 | 3 | 6 | 7 | 2 | 9 | 14 | 12 | 9 | 9 | 6 | 3 | 7 | 5 | 0 | 6 | 7 |
| 4 | 10 | 1 | 7 | 3 | 5 | 4 | 4 | 3 | 14 | 8 | 3 | 8 | 2 | 8 | 6 | 7 | 6 | 0 | 5 |
| 5 | 10 | 4 | 9 | 4 | 6 | 1 | 7 | 6 | 9 | 7 | 6 | 3 | 3 | 9 | 5 | 8 | 7 | 5 | 0 |

Average runtimes of Floyd’s algorithm on different sized random matrices

Size Average Time(milliseconds)

100 2.10

200 12.40

500 182.20

1000 2207.20