|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FILE** | **ADT #** | **Insertion (Individual)** | **Deletion (Individual)** | **Insertion (N-times)** | **Deletion (N-times)** | **Entire File** |
| **File 1** | **6** | O(logN) | N/A | O(NlogN) | N/A | O(NlogN) |
| **File 2** | **6** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 3** | **6** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 4** | **6** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 1** | **7** | O(N) | N/A | O(N^2) | N/A | O(N^2) |
| **File 2** | **7** | O(N) | O(1) | O(N^2) | O(N) | O(N^2) |
| **File 3** | **7** | O(N) | O(N) | O(N^2) | O(N^2) | O(N^2) |
| **File 4** | **7** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 1** | **8** | O(logN) | N/A | O(NlogN) | N/A | O(NlogN) |
| **File 2** | **8** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 3** | **8** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 4** | **8** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 1** | **9** | O(1) | N/A | O(N) | N/A | O(N) |
| **File 2** | **9** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 3** | **9** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 4** | **9** | O(logN) | O(logN) | O(NlogN) | O(NlogN) | O(NlogN) |
| **File 1** | **10** | O(MlogM(N/L)) | N/A | O(NMlogM(N/L)) | N/A | O(NMlogM(N/L)) |
| **File 2** | **10** | O(MlogM(N/L)) | O(L+MlogM(N/L)) | O(NMlogM(N/L)) | O(N[L+MlogM(N/L)]) | O(N[L+MlogM(N/L)]) |
| **File 3** | **10** | O(MlogM(N/L)) | O(L+MlogM(N/L)) | O(NMlogM(N/L)) | O(N[L+MlogM(N/L)]) | O(N[L+MlogM(N/L)]) |
| **File 4** | **10** | O(MlogM(N/L)) | O(L+MlogM(N/L)) | O(NMlogM(N/L)) | O(N[L+MlogM(N/L)]) | O(N[L+MlogM(N/L)]) |
| **File 1** | **11** | O(1) | N/A | O(N) | N/A | O(N) |
| **File 2** | **11** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 3** | **11** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 4** | **11** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 1** | **12** | O(1) | N/A | O(N) | N/A | O(N) |
| **File 2** | **12** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 3** | **12** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 4** | **12** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 1** | **13** | O(1) | N/A | O(N) | N/A | O(N) |
| **File 2** | **13** | O(1) | O(logN) | O(N) | O(NlogN) | O(NlogN) |
| **File 3** | **13** | O(1) | O(logN) | O(N) | O(NlogN) | O(NlogN) |
| **File 4** | **13** | O(1) | O(logN) | O(N) | O(NlogN) | O(NlogN) |
| **File 1** | **14** | O(1) | N/A | O(N) | N/A | O(N) |
| **File 2** | **14** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 3** | **14** | O(1) | O(1) | O(N) | O(N) | O(N) |
| **File 4** | **14** | O(1) | O(1) | O(N) | O(N) | O(N) |