|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1** | **1** | 0 | 0 | 0 | 0 |
| **1** | **1** | 0 | 0 | 0 | 0 |
| **1** | **1** | **1** | **1** | **1** | **1** |
| **1** | **1** | **1** | **1** | **1** | **1** |
| **1** | **1** | 0 | 0 | 0 | 0 |
| **1** | **1** | 0 | 0 | 0 | 0 |

|  |  |  |
| --- | --- | --- |
| **1** | 0 | 0 |
| **1** | **1** | **1** |
| **1** | 0 | 0 |

**4**

**6**

**3**

**5**

User

App

OS

Peripherals

Hardware + Storage

Drivers

File 4

130MB

File 1

100MB

File 3

80MB

Stage 4, Defragmentation: Fragments are put together

File 2

60MB

Stage 1: New files are added in order and together

File 3

80MB

File 1

100MB

File 4

70MB

File 1

100MB

File 3

80MB

File 4

60MB

Stage 3: A new file is fragmented and fits into the gaps

File 1

100MB

File 3

80MB

Stage 2: A file is deleted, leaving a small space in storage

Shell

Kernel