Operating Systems ClassWork 7 – File Management Page 1 of 3

Class Work 7

File Management

Consider a storage device with 100 blocks of storage. Each block has a size of 2kB. A file directory contains the following files that are to be saved in by the file manager. The shaded area of the storage space is already occupied.

|  |  |
| --- | --- |
| File name | File size |
| MyDoc.doc | 50kB |
| Another.txt | 20kB |
| Abcfile.xls | 10kB |
| Anyfile.txt | 30kB |

**Show how the above files would be stored under each of the following strategies:**

* **Contiguous blocks**
* **Block Linkage**

**HINT:** Compute the number of blocks required for each file in order to be saved.

Use different colours to indicate the blocks used by a given file

For the Block Linkage strategy, indicate in each block the link (number) towards the next block

# Contiguous Blocks

Catalogue

|  |  |  |
| --- | --- | --- |
| File name | File size | Other Information |
| MyDoc.doc | 50k |  |
| Another.txt | 20k |  |
| Abcfile.xls | 10k |  |
| Anyfile.txt | 30k |  |

Storage Space

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |
|  |  |  |  |  |  |  |  |  |  | 10 |
|  |  |  |  |  |  |  |  |  |  | 20 |
|  |  |  |  |  |  |  |  |  |  | 30 |
|  |  |  |  |  |  |  |  |  |  | 40 |
|  |  |  |  |  |  |  |  |  |  | 50 |
|  |  |  |  |  |  |  |  |  |  | 60 |
|  |  |  |  |  |  |  |  |  |  | 70 |
|  |  |  |  |  |  |  |  |  |  | 80 |
|  |  |  |  |  |  |  |  |  |  | 90 |
|  |  |  |  |  |  |  |  |  |  | 100 |

# Block Linkage

Catalogue

|  |  |  |
| --- | --- | --- |
| File name | File size | Other Information |
| MyDoc.doc | 50k |  |
| Another.txt | 20k |  |
| Abcfile.xls | 10k |  |
| Anyfile.txt | 30k |  |

Storage Space

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |
|  |  |  |  |  |  |  |  |  |  | 10 |
|  |  |  |  |  |  |  |  |  |  | 20 |
|  |  |  |  |  |  |  |  |  |  | 30 |
|  |  |  |  |  |  |  |  |  |  | 40 |
|  |  |  |  |  |  |  |  |  |  | 50 |
|  |  |  |  |  |  |  |  |  |  | 60 |
|  |  |  |  |  |  |  |  |  |  | 70 |
|  |  |  |  |  |  |  |  |  |  | 80 |
|  |  |  |  |  |  |  |  |  |  | 90 |
|  |  |  |  |  |  |  |  |  |  | 100 |

# 