

## **Class Work 8 - Memory Management and Working with Files**

### **TASK 1: Memory Management**

#### **1. Differentiate between Contiguous Memory Allocation and Block Linkage**

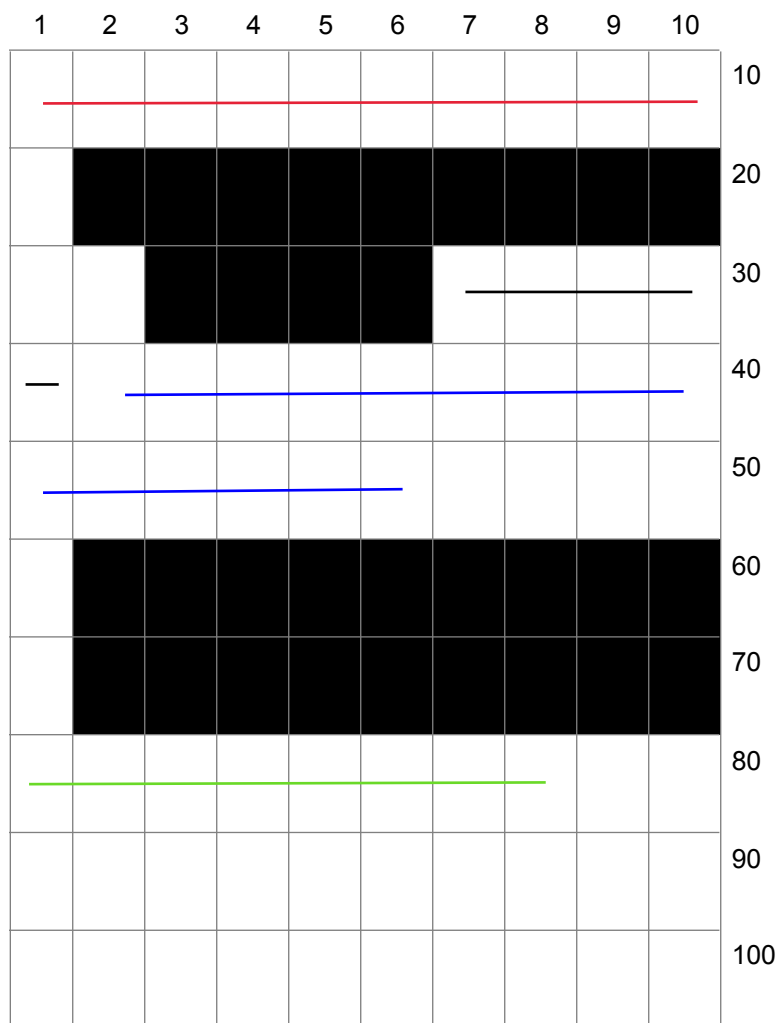
Consider a storage device with 100 blocks of storage. Each block has a size of 2kB. A file directory contains the following files that are to be saved in by the file manager. The shaded area of the storage space is already occupied.

File name	File size
Exam.doc	30kB
Keith.txt	15kB
Grades.xls	20kB
solution.txt	10kB

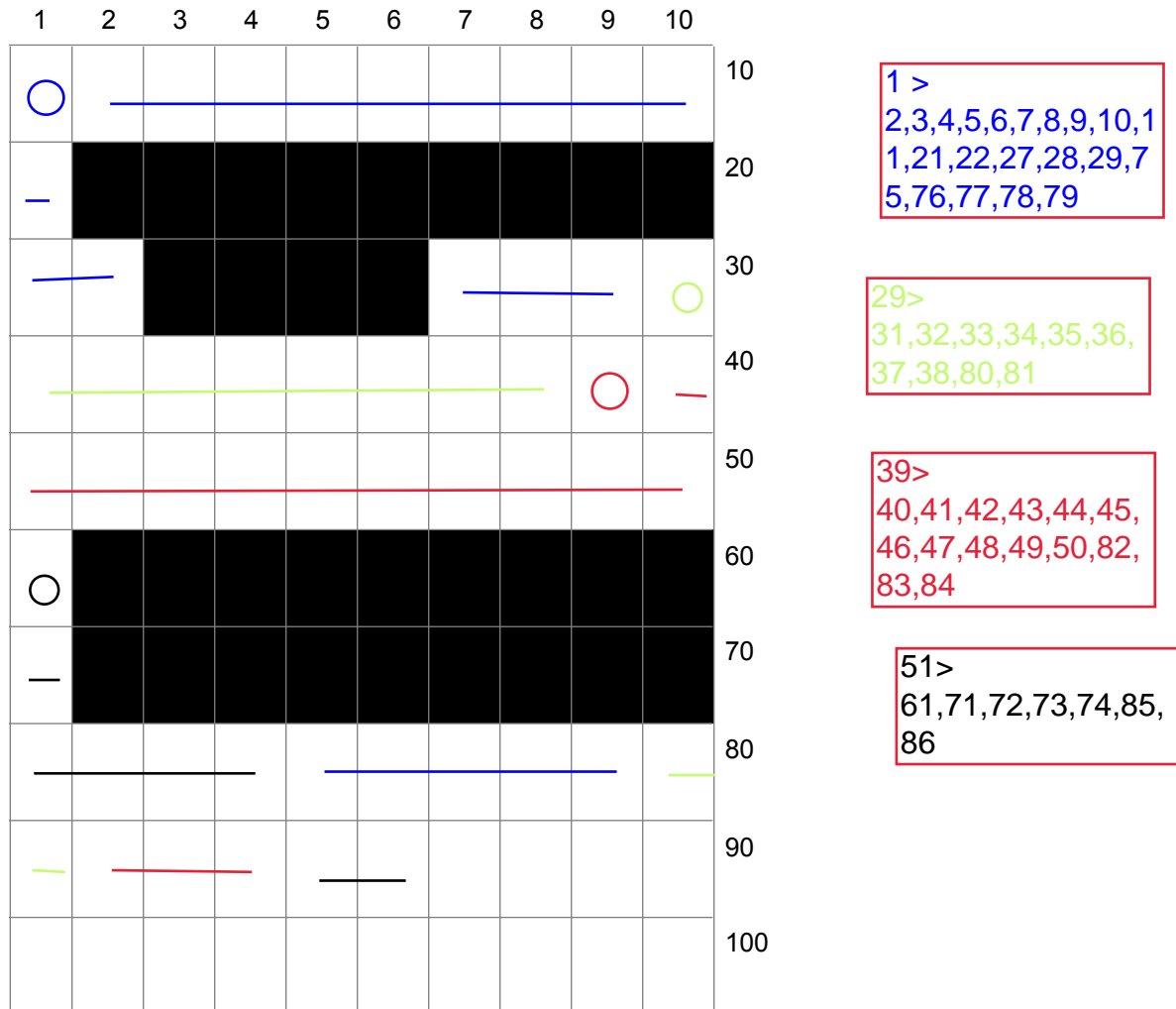
**Show how the above files would be stored (if possible) under each of the following strategies:**

- **Contiguous Storage**
- **Block Linkage** - you can assume that the pointer requires 0.5KB.

## Contiguous Storage



## Block Link Storage



## **TASK 2: Files & Permissions in Unix**

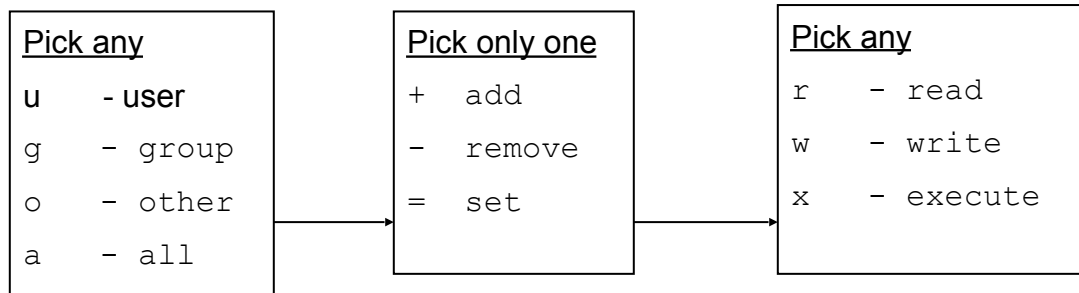
1. Use the text editor to create a number of files called `file1.txt`, `file2.txt`, `file3.txt` and `file4.txt` in your home directory (folder). Write some text in the files.
2. What is the information produced by the `ls -l` command, when you type it in the command line? Describe in details the meaning of the listed information.

Hint. You should see a list with details on your files and/or folders similar with the one bellow.

```
-rwxr-xr-x  1 jsmith  staff      43 Mar 23 18:14 prog1
drwxr--r-x  2 jsmith  staff     512 Mar 23 18:07 subdir1
```

3. Type `man chmod` to find out the purpose of the `chmod` command. What this command does?

The **chmod** command is built up from menus of symbolic values as follows



For example, `chmod g+w myfile.txt` gives the group write permission on `myfile.txt`.

4. Use the `chmod` command to change the permissions on `file1.txt` so that everyone can read, write and execute it. What command did you type in?
  5. How do you use the text format of the `chmod` command in order to remove your write access from `file2.txt`? Try it in the command line.
  6. How do you use the text format of the `chmod` command in order to remove read permission for `file3.txt` from everyone except yourself?
  7. Permissions on a file can also be set using the numeric format of the `chmod` command. (E.g. `chmod 777 filename`).
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**To change the permissions on file named `phone.numbers`, from `rw-rwxr--` to `rxr-xrw-`, how would you use the `chmod` command?**