Exercise 20.2: Partitioning a Disk Image File

The next level of complication is to divide the container file into multiple partitions, each of which can be used to hold a filesystem, or a swap area.

You can reuse the image file created in the previous exercise or create a new one.

1. Run **fdisk** on `imagefile`:

```
$ sudo fdisk -C 130 imagefile
```

```
Device does not contain a recognized partition table
Building a new DOS disk label with disk identifier 0x6280ced3.
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Command (m for help):
```

   The `-C 130` sets the number of phony cylinders in the drive, and is only necessary in old versions of **fdisk**, which unfortunately you will find on **RHEL 6**. However, it will do no harm on other distributions.

2. Type `m` to get a list of commands:

```
m
```

```
Command (m for help): m
Command action
a   toggle a bootable flag
b   edit bsd disklabel
c   toggle the dos compatibility flag
d   delete a partition
g   create a new empty GPT partition table
G   create an IRIX (SGI) partition table
l   list known partition types
m   print this menu
n   add a new partition
o   create a new empty DOS partition table
p   print the partition table
q   quit without saving changes
s   create a new empty Sun disklabel
t   change a partition's system id
u   change display/entry units
v   verify the partition table
w   write table to disk and exit
x   extra functionality (experts only)

Command (m for help):
```

3. Create a new primary partition and make it 256 MB (or whatever size you would like):

```
Command (m for help): n
```

```
Partition type:
p   primary (0 primary, 0 extended, 4 free)
e   extended
Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-2097151, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-2097151, default 2097151): +256M
Partition 1 of type Linux and of size 256 MiB is set
```

4. Add a second primary partition also of 256 MB in size:

```
Command (m for help): n
```

```
Partition type:
p   primary (1 primary, 0 extended, 3 free)
e   extended
Select (default p): p
Partition number (2-4, default 2): 2
First sector (526336-2097151, default 526336):
Using default value 526336
Last sector, +sectors or +size{K,M,G} (526336-2097151, default 2097151): +256M
Partition 2 of type Linux and of size 256 MiB is set

Command (m for help): p

Disk imagefile: 1073 MB, 1073741824 bytes, 2097152 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x6280ced3

Device Boot      StartEnd      Blocks   Id  System
imagefile1          2048      526335      262144   83  Linux
imagefile2          526336     1050623      262144   83  Linux
```

5. Write the partition table to disk and exit:

```
Command (m for help): w
```

```
The partition table has been altered!

Syncing disks.
```

While this has given us some good practice, we haven't yet seen a way to use the two partitions we just created. We'll start over in the next exercise with a method that lets us do so.