# Hash Problem

Whilst on the Cyberman spaceship, Graham comes across a terminal. A sticky note near the terminal says, “The credentials for the next account are in file.” Graham lists the files in the terminal and sees 100 files, file0.txt through file99.txt. He looks back at the note to see which file he needs, but the sticky note was torn off just after “file”.

Help Graham find the file he needs. A simple loop that takes the hash of each file is one way to do it. It does not matter which form of hash (MD5, SHA-1, etc.) you use, as we do not expect malicious files that create hash collisions. (There are other ways to solve this if you do not like hashes.)

**What is the content of the file that contains the credentials?**

Easy way to decode hints: <https://www.base64decode.org/>

Python Hint 1: It is easy to do hashes in Python. I need to include that in Lab 8 next year, but for now:  
import hashlib  
hashlib.md5(b'this is what I want to hash').hexdigest()  
Note: the input must be type bytes, b’;dlfja;s’ or variable.encode()

Python Hint 2  
aW1wb3J0IGhhc2hsaWIKCndpdGggb3BlbignZmlsZTAudHh0JykgYXMgZmg6CiAgICBjb250ZW50ID0gZmgucmVhZCgpLmVuY29kZSgpCm15aGFzaCA9IGhhc2hsaWIubWQ1KGNvbnRlbnQpLmhleGRpZ2VzdCgpCnByaW50KG15aGFzaCk=

Another way Hint:  
Find a word in the first file that you guess might not be in the file that’s different  
Use grep to find a file that doesn’t have the word you chose  
There is a flag in grep for not match  
Use the -r flag for recursive

RmluZCBhIHdvcmQgaW4gdGhlIGZpcnN0IGZpbGUgdGhhdCB5b3UgZ3Vlc3MgbWlnaHQgbm90IGJlIGluIHRoZSBmaWxlIHRoYXTigJlzIGRpZmZlcmVudApVc2UgZ3JlcCB0byBmaW5kIGEgZmlsZSB0aGF0IGRvZXNu4oCZdCBoYXZlIHRoZSB3b3JkIHlvdSBjaG9zZQpUaGVyZSBpcyBhIGZsYWcgaW4gZ3JlcCBmb3Igbm90IG1hdGNoClVzZSB0aGUgLXIgZmxhZyBmb3IgcmVjdXJzaXZl