## Passwords

Passwords are very important, they

- keep your personal information safe
- stop people from getting access to systems that they might break

A secure password is difficult for other people to guess but is also difficult for a machine to crack. Machines can try lots of combinations very quickly.

If all passwords were made of numbers a password 3 characters long would give 000 to 999 this is 1000 possible different passwords. That might sound a lot but a computer could try all those combinations in a fraction of a second. It would be very bad to have a password that is just numbers.

If all passwords were made from 3 letters we would have aaa to zzz that is 17576 possible combinations so that is a lot better.

If all passwords used upper and lower case letters as different instead of 26 letters we have 52 so that is 140,608 possibilities

If all passwords were made from numbers and letters it increases from 52 to 62 possible characters. If we add $\% \$ £ @$ etc we can get as many as 128 . So for a 3 character password we have over 2 million possibilities. If we increase that to a 6 character password it is 67675234241018881 possibilities so we are really getting a lot lot more secure.

So make sure your password has Upper case, lowercase letters, at least a number and one of the special characters in it and is more than 6 characters long.

## Won't this be difficult to remember?

Not really, here are some examples of strong memorable passwords - but don't use them exactly!
MyBestFriend100\%
20\%RipOff

64\$isExpensive
ChangeMy£10to\$10
ILuvMy*Dog2bits

- Don't use obvious words by themselves such as Password
- Don't use any dictionary words by themselves - computers can try all the words in a dictionary
- Don't tell anyone else your password
- Don't try and find out anyone else's password
- Don't store your password in an ordinary word processing file on your computer, especially not in a file called password!
- Do write your password down and keep it safe somewhere where it won't be obvious what it is if someone finds it.

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