



PASSWORDS 101

MABEL SMITH'S PASSWORDS

Web Site

<https://johnlewis.com>

<https://yogalive.co.uk>

<https://amazon.co.uk>

<http://myhandbags.com>

<https://google.com>

<https://bbc.news.co.uk>

<https://virginmedia.com>

Login

mabel.smith@gmail.com

mabelsmith99

mabel.smith@gmail.com

mabel.smith@gmail.com

mabel.smith@gmail.com

mabel.smith@gmail.com

mabel.smith@gmail.com

Password

Monkey123

Monkey123

Monkey123

Monkey123

Monkey123

Monkey123

Monkey123

HOW WEBSITES SHOULD STORE YOUR PASSWORD!!!!!!

Password should always be encrypted so they are not stored in “clear Text”

The encryption should be “one-way” so they can not be decrypted ?

Clear Text Password

Monkey123

Encrypted Password stored on Website

\$1\$bFgZynLY\$9ek5ZVV BorGPpNyu6J73d0



Monkey123

Monkey123



CRACKING YOUR PASSWORD

Password files obtained via Web Hacking Data Breaches

Hackers use tools to crack password like “Hashcat” and “John The Ripper”

These are Brute Force attacks where possible passwords are encrypted and then the encrypted password is compared to your encrypted password

“Rainbow Tables” contain list of post-encrypted password to speed process

HOW WEBSITES SHOULD STORE YOUR PASSWORD!!!!!!

Time it takes a hacker to brute force your password

Number of characters	Numbers only	Lowercase Letters	Upper and Lower-case Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	1 sec	5 secs
7	Instantly	Instantly	25 secs	1 min	6 mins
8	Instantly	5 secs	22 mins	1 hour	8 hours
9	Instantly	2 mins	19 hours	3 days	3 weeks
10	Instantly	58 mins	1 month	7 months	5 years
11	2 secs	1 day	5 years	41 years	400 years
12	25 secs	3 weeks	300 years	2k years	34k years
13	4 mins	1 year	16k years	100k years	2m years
14	41 mins	51 years	800k years	9m years	200m years
15	6 hours	1k years	43m years	600m years	15bn years
16	2 days	34k years	2bn years	37bn years	1tn years
17	4 weeks	800k years	100bn years	2tn years	93tn years
18	9 months	23m years	6tn years	100tn years	7qd years

Source: <https://www.hivesystems.io/blog/are-your-passwords-in-the-green>

Testing Your Password

<https://www.passwordmonster.com/>

HOW TO BETTER SECURE YOUR PASSWORD

Rules for Passwords

Use a different password for each site, do not reuse passwords

Create random passwords at least 12 characters with upper and lower case letters, numbers and special characters

!"£\$%^&*()_+ = - # @] [{ }

But how do I remember these passwords ?

Use your browser's password manager to remembers passwords

Use a third party password manager such as *LastPass Bitwarden Keeper*

BUT WHAT ABOUT MOBILE

- Choose a third-party password manager than has a mobile version that can synchronise passwords between desktop PC's and mobile via an app \$
- Use Google Chrome on both Desktop PC and Mobile and set the passwords to sync between the platforms
 - By Default iPhone uses the Safari Browser
 - Samsung phones use the Samsung Browser

BUT WHAT ABOUT MOBILE

