

## TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper, and Lowercase Letters	Numbers, Upper, Lowercase Letters, and 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

### Choosing and Protecting Strong Passwords

#### 1. Don't write down your passwords

Although this may sound like a no-brainer, many people do write down their passwords. If you write down your passwords, someone will be able to get into your accounts if they find where you've written them down. A post-it note on the underside of your keyboard is not as sneaky as you think it is. People will find that. Also be aware that e-mail and online file storage services are not secure ways to store passwords. If you can't remember your passwords and need to write them down, please consider using a password manager.

#### 2. Use a password manager

Managing passwords can be difficult, but a secure password manager can help you be more efficient by generating, remembering, organizing, and filling in your passwords. Loyola University Chicago has partnered with LastPass to provide students, faculty, and staff with the benefits of LastPass. One master password is all you will have to remember to access all your accounts. All students, faculty, and staff now have access to this new service and can sign-up for a LastPass Premium account.

Please see the following link for more information:

<https://www.luc.edu/its/services/password/lastpasspasswordmanagementvault/>