**GOLDMAN SACHS**

**CRACK LEAKED PASSWORD DATABASE**

Dear Sir/Madam,

The provided passwords were encrypted using the MD5 algorithm. MD5 (message-digest algorithm) is a cryptographic protocol used for authenticating messages as well as content verification and digital signatures.

MD5 runs entire files through a mathematical hashing algorithm to generate a signature that can be matched with an original file. MD5 has been cryptographically broken and considered insecure.

In the event of a password database leakage, the following can be considered:

* Enforcing strong credentials and multi-factor authentication
* Upgrading devices
* Limiting access to your most valuable data
* Patching and updating software
* Enforcing BYOD (Bring Your Own Device) security policies

The following factors should be taken into consideration when advising a user on the creation of a password:

* Use a minimum of 8 characters
* Password must include uppercase and lowercase characters
* Password must include numerical values
* Password must include special characters, e.g.! @ # $ %
* Use a hashing algorithm with higher protection, e.g. SHA-256
* Enabling two-factor authentication
* Avoid using dictionary words

Regards,  
Edem Fiifi Dawson,  
Academic City University College,  
Computer Engineering.

**The following are the cracked hashes:**

e10adc3949ba59abbe56e057f20f883e 123456

25f9e794323b453885f5181f1b624d0b 123456789

d8578edf8458ce06fbc5bb76a58c5ca4 qwerty

5f4dcc3b5aa765d61d8327deb882cf99 password

96e79218965eb72c92a549dd5a330112 111111

25d55ad283aa400af464c76d713c07ad 12345678

e99a18c428cb38d5f260853678922e03 abc123

fcea920f7412b5da7be0cf42b8c93759 1234567

7c6a180b36896a0a8c02787eeafb0e4c password1

6c569aabbf7775ef8fc570e228c16b98 password!

3f230640b78d7e71ac5514e57935eb69 qazxsw

917eb5e9d6d6bca820922a0c6f7cc28b Pa$$word1

f6a0cb102c62879d397b12b62c092c06 bluered

16ced47d3fc931483e24933665cded6d Oranolio1994

1f5c5683982d7c3814d4d9e6d749b21e Spuffyffet12

8d763385e0476ae208f21bc63956f748 moodie00

defebde7b6ab6f24d5824682a16c3ae4 nAbox!1

bdda5f03128bcbdfa78d8934529048cf Banda11s

9b3b269ad0a208090309f091b3aba9db Flamesbria2001