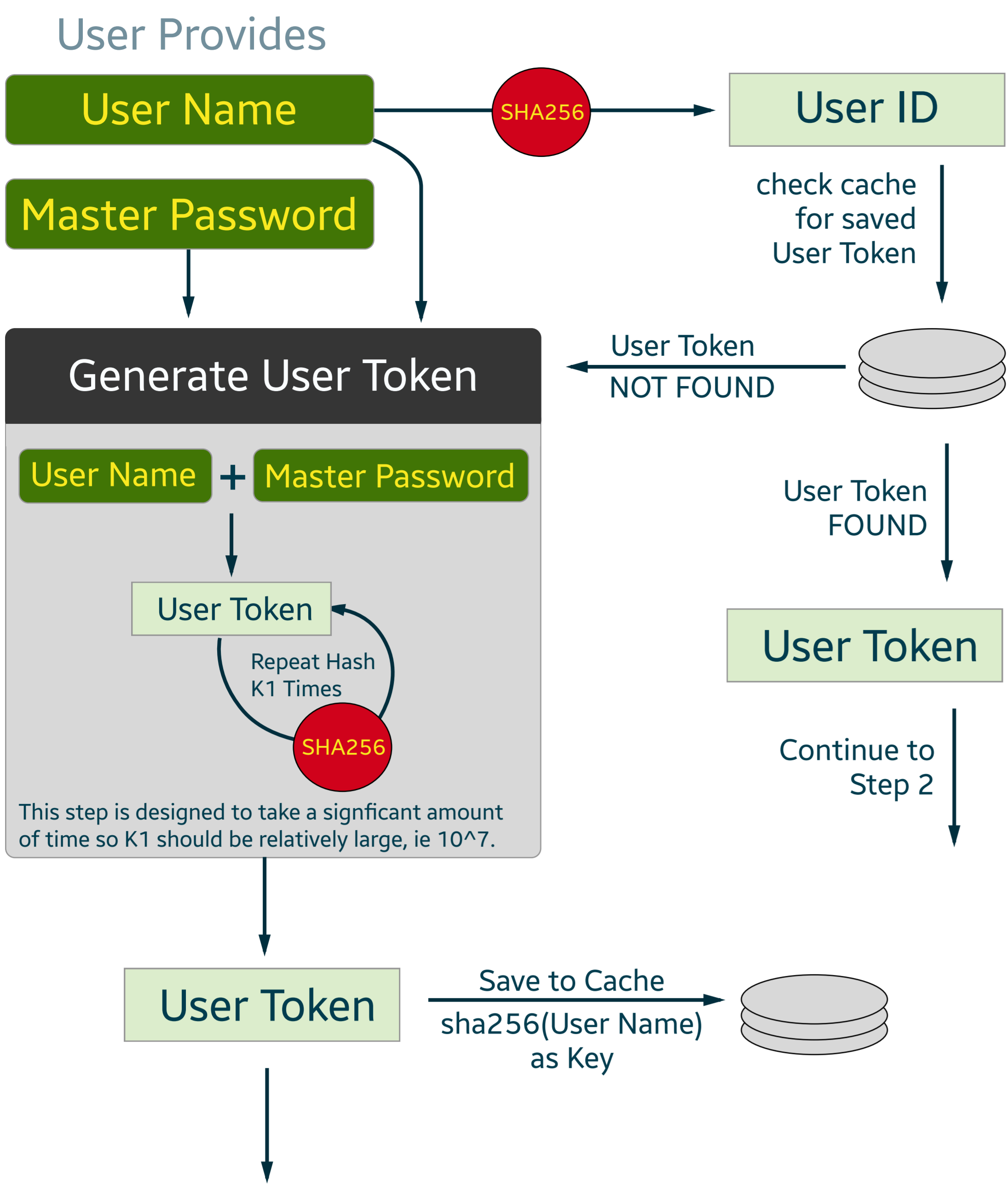
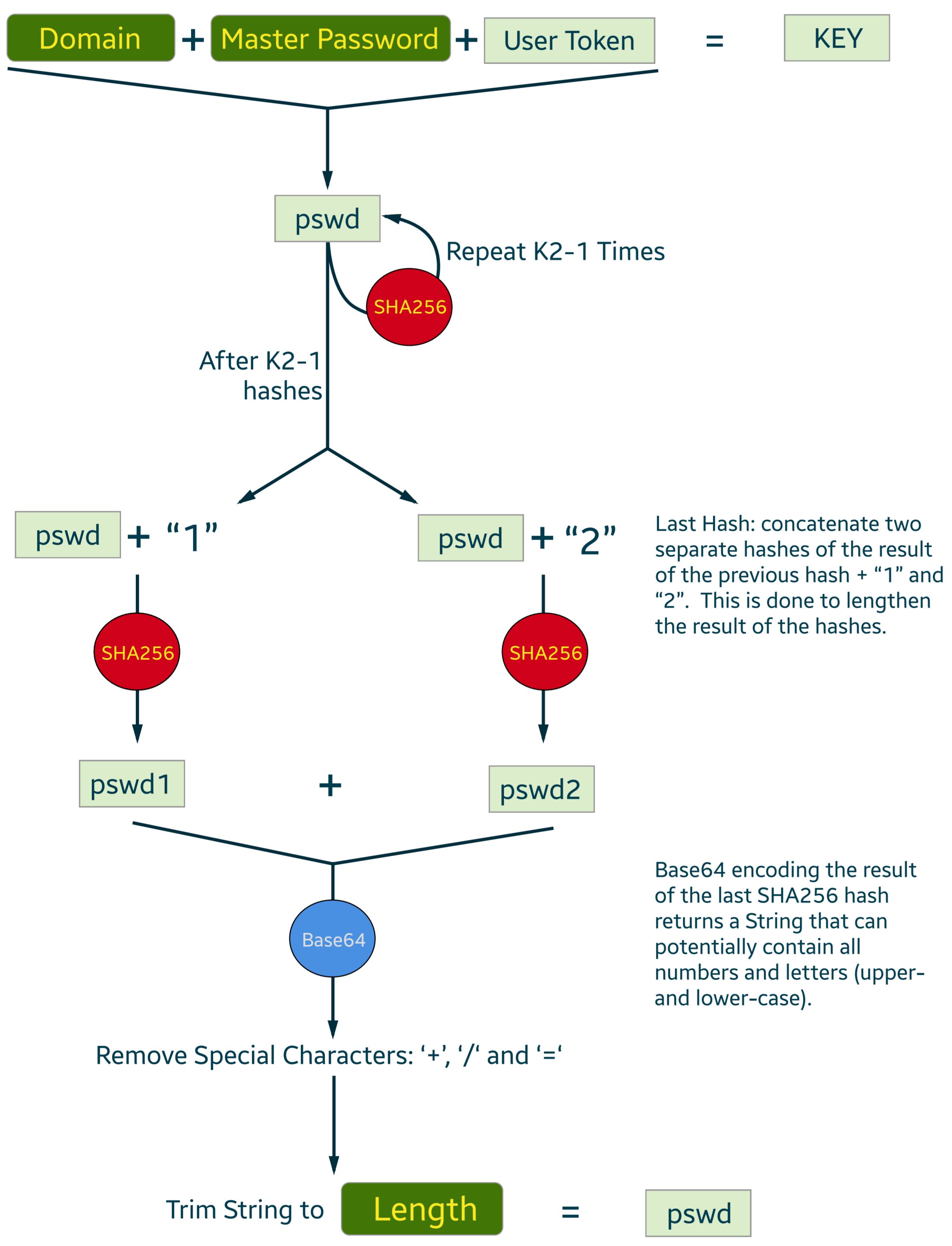
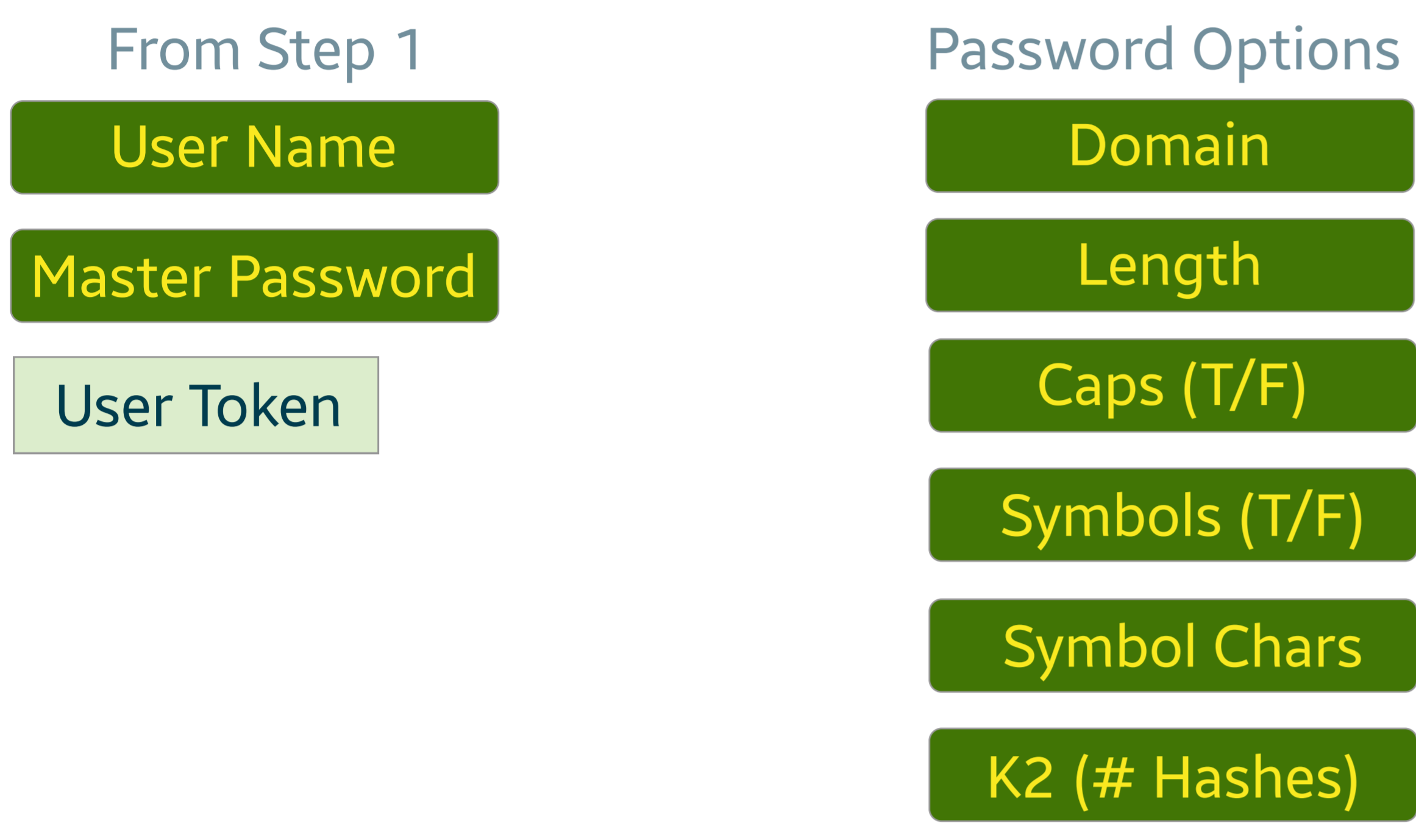


Step 1: User Token Generation

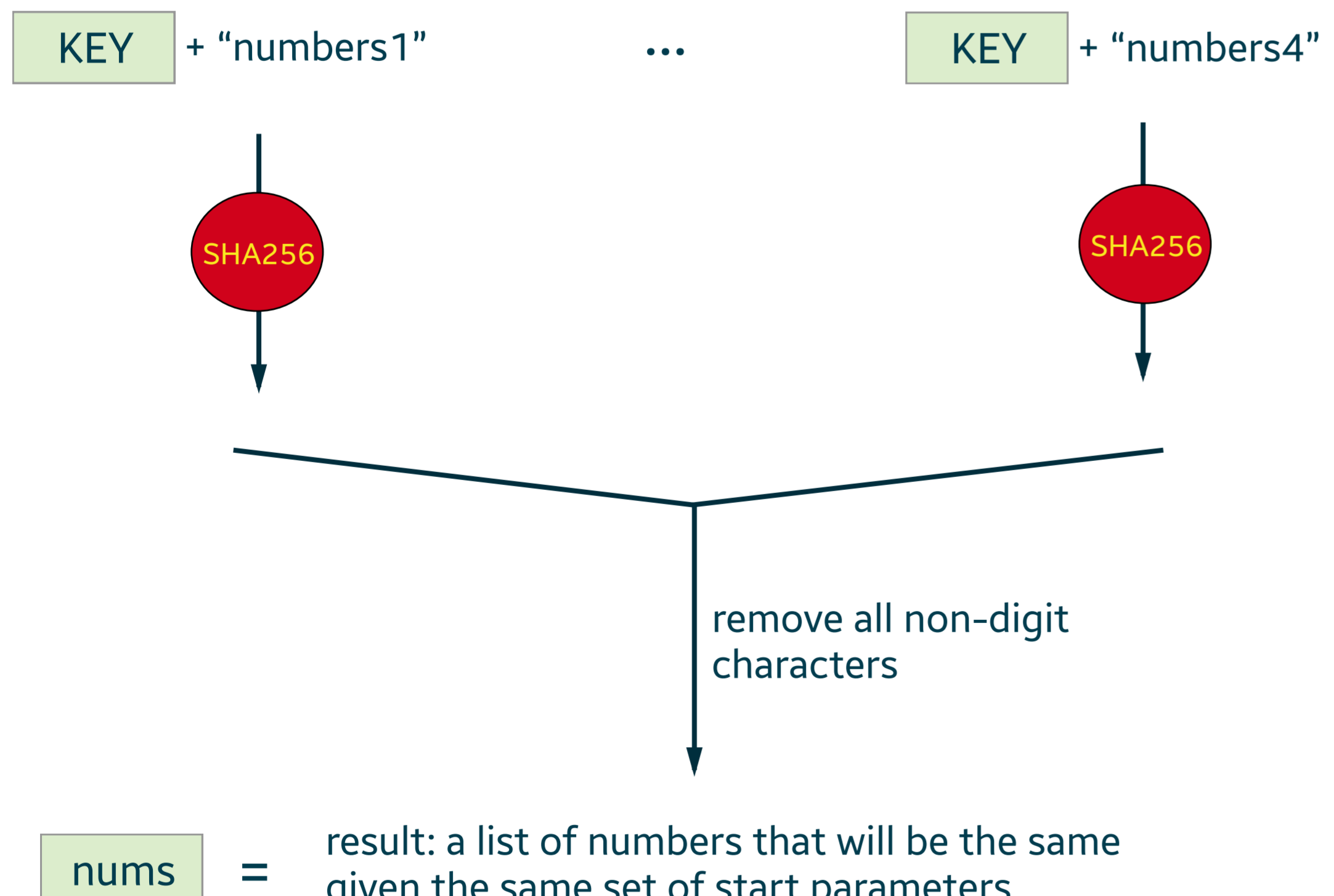


Step 2: Password Generation



Add Symbols, if requested:

Create a reproducible set of numbers to use as character indices to determine which characters should be replaced by symbols and which symbols to use.



Determine the number of symbols to add:
 $div = \text{nums}[0]$
 if $div \leq 3$; $div = 4$
 $n = \text{Length} / div$

For each symbol to add:
 $location = (\text{next 2 digits in } \text{nums}) \text{ MOD } \text{Length}$
 $sym_location = (\text{next 2 digits in } \text{nums}) \text{ MOD } \text{length}(\text{Symbol Chars})$
 $\text{pswd}[location] = \text{Symbol Chars}[sym_location]$

If Uppercase letters are NOT requested:

convert `pswd` to lowercase

Step 1: User Token Generation

User Name = dave
 Master Password = topS3cret

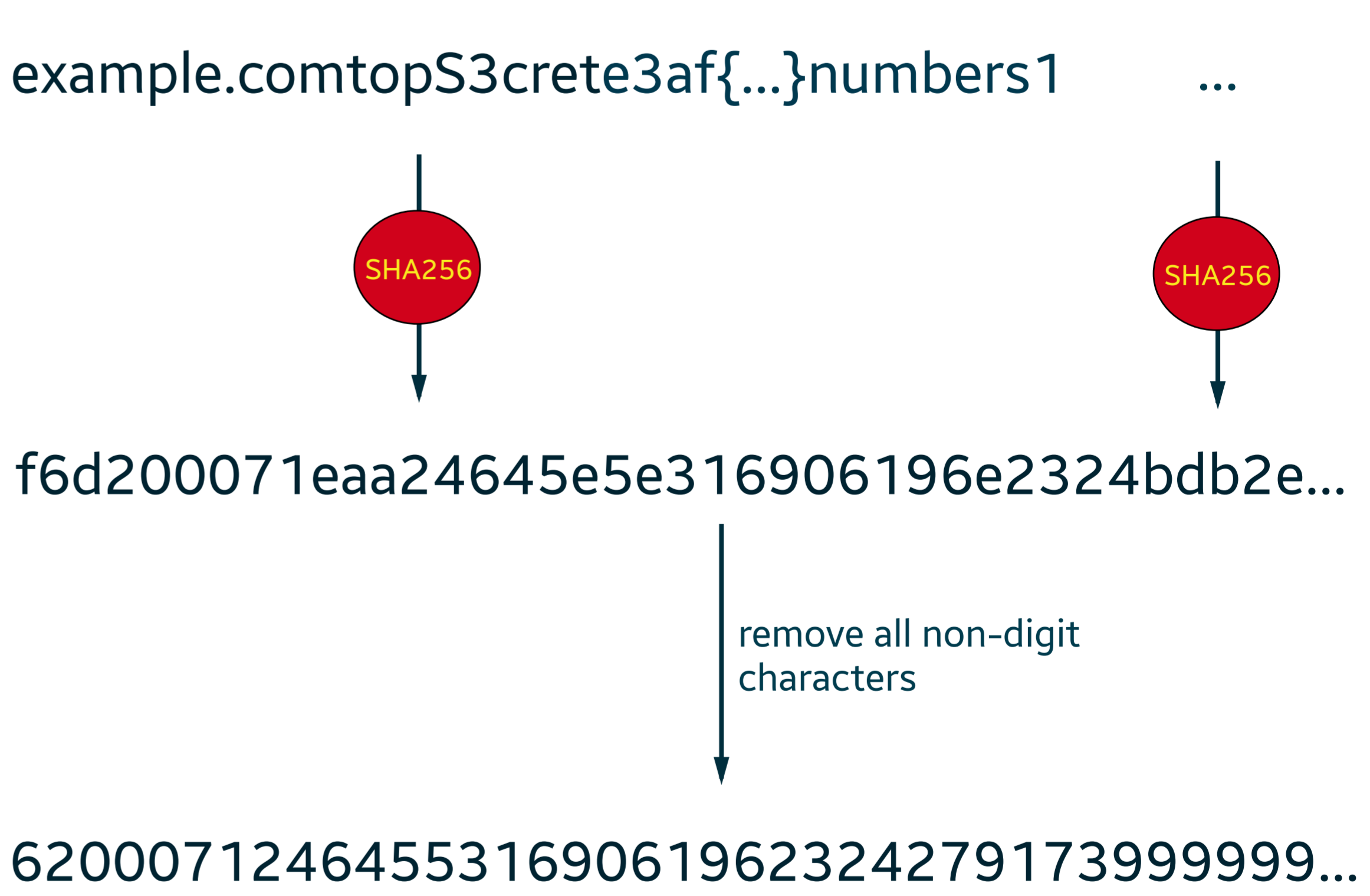
Before Hash: User Token = davetopS3cret
 After 1 Hash: User Token = sha256(davetopS3cret) = 0ee174fd149328aca71ba762c1db24...
 After 2 Hashes: User Token = sha256(0ee174fd149328aca71ba762) = 97991d897c3c4d0103633123c7265e...
 After 1000000 Hashes: User Token = e3af81751373ce6eed667e85abf680b...

Step 2: Password Generation

User Name = dave
 Master Password = topS3cret
 User Token = e3af81751373ce6eed667e85abf680b8...
 Domain = example.com
 Length = 24
 Caps (T/F) = T
 Symbols = T
 Symbol Chars = !@\$*-_?
 K2 (# Hashes) = 250

Before Hash: KEY = example.comtopS3crete3af81751373ce6ee...
 After 1 Hash: pswd = 3649a452852a065d618e5a711ef9be0d1f2...
 After 249 Hashes: pswd = 4a8b1b1c0784dd0fc6fe7ce07de10e46f39...
 Last Hash: 4a8b1b1c0784d{...}1 + 4a8b1b1c0784d{...}2
 Base 64 encode the hex output of the last pair of hashes remove the special characters + / = :
 pswd = 93DXKVUIy33HOJ6UkFqQoje3IBqfDM2zG...
 Trim to length of 24:
 pswd = 93DXKVUIy33HOJ6UkFqQoje3
 If CAPS = T and SYMBOLS = F, this would be the final password

Add Symbols:



Determine the number of symbols to add:
 $div = 6$
 if $div \leq 3$; $div = 4$
 $n = 24 / 6 = 4$

For the first symbol:
 $location = 20 \text{ MOD } 24 = 20$
 $symbol_location = 00 \text{ MOD } 8 = 0$
 $\text{pswd}[20] = \text{SYM_CHARS}[0]$ # replaces 'o' with '!'
 For the second symbol:
 $location = 71 \text{ MOD } 24 = 23$
 $symbol_location = 24 \text{ MOD } 8 = 0$
 $\text{pswd}[23] = \text{SYM_CHARS}[0]$ # replaces '3' with '!'

FINAL PASSWORD:

pswd = 93DXKVU_y33HOJ6U?FqQ!je!