

SHA-256 Algorithm: High-Level Process Flow

Initialize with
8 constants
(prime roots)



INPUT

Any length
message

"abc"
(3 bytes)

PADDING

+1 bit
+zeros
+64-bit len

*Ensure length
= $448 \bmod 512$*

PARSING

512-bit
blocks

*Split into
 n blocks*

COMPRESSION

64 rounds
per block

*AND, XOR,
rotate, add*

FINALIZE

Concatenate
8 words

OUTPUT

256-bit
hash

64 hex
characters