







**Proposed primitives**

- Goal: clear, near-universal meta-language for expressing algorithms. Ideally, both human-readable and machine-readable in consistency and clarity.
- Suggest starting with JIR's as a base - it's clear and stable

Token	Type	Description	Aliases	Example	Comment
\$p	literal	password	\$pass, \$plain		
\$s	literal	salt	\$salt		
truncX	function	truncate to length X	truncate,chop		Maybe a single primitive that accepts a value, rather than one primitive per truncation length? The latter would be more flexible, but might be less readable.
utf16le	function	utf16le			
base64	function	base64 encode	base64_encode		
rev	function	reverse	reverse_str,reverse_strrev		
uc	function	uppercase, cap	toupper,strtoupper		
lc	function	lowercase	tolower,strtolower		
substr	function		sub		
hmac	meta-function				
raw	meta-function				
?	meta-function				bit order? (bcad, etc.)
hex	meta-function	Hex encoded			that the item specified is expressed as hex
hum	meta-function	human			trailing newlines, etc?
swap	meta-function				
null	meta-function		dummy		no-op
aes	core algo				
cube	core algo				
des	core algo				
decrypt	core algo				
echo	core algo				
edon	core algo				
fugue224	core algo				
fugue256	core algo				
fugue384	core algo				
fugue512	core algo				
gost	core algo				
groestl	core algo				
hamsi	core algo				
haval128	core algo				
haval160	core algo				
haval192	core algo				
haval224	core algo				
jh	core algo				
keccak	core algo				
lm	core algo				
luffa	core algo				
md2	core algo				?
md4	core algo				
md5	core algo				
mongo	core algo				
mysql5	core algo				
ntlm	core algo				
panama	core algo				
pbkdf2	core algo				
radmin2	core algo				
ripemd128	core algo				
ripemd160	core algo				
ripemd256	core algo				
ripemd320	core algo				
scrypt	core algo				
sha0	core algo				
sha1	core algo				
sha224	core algo				
sha256	core algo				
sha256crypt	core algo				
sha384	core algo				
sha512	core algo				
sha512crypt	core algo				
shavite	core algo				
skein	core algo				
snefru128	core algo				
snefru256	core algo				
tiger128	core algo				
tiger160	core algo				
tiger192	core algo				
whirlpool	core algo				

Other rosettas								
		<a href="https://mattw.io/hashID/types">https://mattw.io/hashID/types</a>						
Rules rosetta								
		<a href="https://docs.google.com/spreadsheets/d/1vDQWg-eZplEScs7sF4m3eJCEGq3bmmifHsLGL73n4Iq">https://docs.google.com/spreadsheets/d/1vDQWg-eZplEScs7sF4m3eJCEGq3bmmifHsLGL73n4Iq</a>						
Good refs								
		<a href="https://miloserdov.org/?p=5960">https://miloserdov.org/?p=5960</a>						
		-form=dynamic='EXPRESSION'						
Other suites (for potential inclusion someday)								
	Passware	<a href="https://support.passware.com/hc/en-us/articles/5373220102423-What-hash-types-are-supported-in-Passware-Kit-">https://support.passware.com/hc/en-us/articles/5373220102423-What-hash-types-are-supported-in-Passware-Kit-</a>						
	Elcomsoft	<a href="https://www.elcomsoft.com/edpr.html">https://www.elcomsoft.com/edpr.html</a>						
<i>Last updated</i>	<i>2023-05-04</i>							

[1] needs to be run with -i2

[2] this algorithm technically tests two variants

[3] this algorithm tests for three variants

[4] this algorithm tests for three variants

[5] this algorithm tests for three variants

[6] this algorithm tests for three variants

[7] this algorithm tests for three variants

[8] this algorithm tests for three variants

[9] this algorithm tests for three variants

[10] this algorithm tests for three variants

[11] this algorithm tests for three variants

[12] this algorithm tests for three variants

[13] this algorithm tests for three variants

[14] this algorithm tests for three variants

[15] this algorithm tests for three variants

[16] this algorithm tests for three variants

[17] this algorithm tests for three variants

[18] NOTE: This algorithm is the same like md5(mysql5(\$plain))

[19] bug in current MDXfind release for this algorithm. Fix is known but not released yet.

[20] this algorithm tests for two variants

[21] this algorithm tests for two variants

[22] this algorithm tests for two variants

[23] this algorithm tests for two variants

[24] coming soon

[25] key = \$salt

[26] key = \$salt

[27] this algorithm tests for two variants

[28] this algorithm tests for two variants

[29] this algorithm tests for two variants

[30] this algorithm tests for two variants

[31] this algorithm tests for two variants

[32] this algorithm tests for two variants

[33] this algorithm tests for two variants

[34] this algorithm tests for two variants

[35] just taking the userid as salt

[36] just taking the userid as salt

[37] this algorithm checks for five variants

[38] this algorithm checks for five variants

[39] this algorithm checks for five variants

[40] this algorithm checks for five variants

[41] this algorithm checks for five variants

[42] this algorithm checks for three variants

[43] this algorithm checks for three variants

[44] this algorithm checks for three variants

[45] this algorithm checks for five variants

[46] this algorithm checks for five variants

[47] this algorithm checks for five variants

[48] this algorithm checks for five variants

[49] this algorithm checks for five variants

[50] this algorithm checks for five variants

[51] this algorithm checks for five variants

[52] this algorithm checks for five variants

- [53] this algorithm checks for five variants
- [54] this algorithm checks for five variants
- [55] this algorithm checks for two variants
- [56] this algorithm checks for two variants
- [57] bug in current MDXfind release for this algorithm. Fix is known but not released yet.
- [58] bug in current MDXfind release for this algorithm. Fix is known but not released yet.
- [59] bug in current MDXfind release for this algorithm. Fix is known but not released yet.
- [60] this algorithm checks for five variants
- [61] this algorithm checks for five variants
- [62] this algorithm checks for five variants
- [63] this algorithm checks for five variants
- [64] this algorithm checks for five variants
- [65] this algorithm checks for two variants
- [66] this algorithm checks for two variants
- [67] this algorithm checks for five variants
- [68] this algorithm checks for five variants
- [69] this algorithm checks for five variants
- [70] this algorithm checks for five variants
- [71] this algorithm checks for five variants
- [72] this algorithm tests as many combinations as chars in the plain (up to 8)
- [73] this algorithm tests as many combinations as chars in the plain (up to 8)
- [74] this algorithm tests as many combinations as chars in the plain (up to 8)
- [75] this algorithm tests as many combinations as chars in the plain (up to 8)
- [76] this algorithm tests as many combinations as chars in the plain (up to 8)
- [77] this algorithm tests as many combinations as chars in the plain (up to 8)
- [78] this algorithm tests as many combinations as chars in the plain (up to 8)
- [79] this algorithm tests as many combinations as chars in the plain (up to 8)
- [80] bug in current MDXfind release for this algorithm. Fix is known but not released yet.
- [81] this algorithm tests for eight variants



- [82] this algorithm tests for eight variants
- [83] this algorithm tests for eight variants
- [84] this algorithm tests for eight variants
- [85] this algorithm tests for eight variants
- [86] this algorithm tests for eight variants
- [87] this algorithm tests for eight variants
- [88] this algorithm tests for eight variants
- [89] this algorithm tests for five variants
- [90] this algorithm tests for five variants
- [91] this algorithm tests for five variants
- [92] this algorithm tests for five variants
- [93] this algorithm tests for five variants
- [94] this algorithm tests for five variants
- [95] this algorithm tests for five variants
- [96] this algorithm tests for five variants
- [97] this algorithm tests for five variants
- [98] this algorithm tests for five variants
- [99] this algorithm tests for five variants
- [100] this algorithm tests for five variants
- [101] this algorithm tests for five variants
- [102] this algorithm tests for five variants
- [103] this algorithm tests for five variants
- [104] NOTE: RO13 is not the ROT modification from hashes.org
- [105] this algorithm tests for three variants
- [106] this algorithm tests for three variants
- [107] this algorithm tests for three variants
- [108] this algorithm tests for three variants
- [109] this algorithm tests for three variants
- [110] this algorithm tests for three variants

[111] note that CAP might not have any effect

[112] this algorithm tests for two variants

[113] this algorithm tests for two variants

[114] this algorithm tests for two variants

[115] this algorithm tests for two variants

[116] this algorithm tests for two variants

[117] this algorithm tests for two variants

[118] NOTE: the number in the salt denotes how many times MD5 is applied, but this would lead to other algorithms on hashes.org

[119] this algorithm tests for 16 variations

[120] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[121] this algorithm tests for 16 variations

[122] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[123] this algorithm tests for 16 variations

[124] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[125] this algorithm tests for 16 variations

[126] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[127] this algorithm tests for 16 variations

[128] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[129] this algorithm tests for 16 variations

[130] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[131] this algorithm tests for 16 variations

[132] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[133] this algorithm tests for 16 variations

[134] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[135] this algorithm tests for 16 variations

[136] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[137] this algorithm tests for 16 variations

[138] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[139] this algorithm tests for 16 variations

[140] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[141] this algorithm tests for 16 variations

[142] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[143] this algorithm tests for 16 variations

[144] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[145] this algorithm tests for 16 variations

[146] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[147] this algorithm tests for 16 variations

[148] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs

[149] this algorithm tests for 16 variations

[150] NOTE: the variations appear to use different combinations of salts with blank characters, such as newlines, carriage return characters and NULLs