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Mk : kriptografi

Tugas

* Algoritma : key - scheduling Algoritma (KSA)

kunci = "Saputra1", len (k) = 8
Array S = [0, 1, 2, 3, 4, 5, 6, 7, 8, ..., 100, 101, 102, 103, ...
253, 256, 255]

* Iterasi pertama → i = 0
j = 0
⇒ j = (j + s[i] + k[i mod len (k)]) mod 256
= (0 + 0 + k[0 % 8]) % 256
= (k[0]) % 256
= ("s") % 256 ⇒ nilai desimal dari "s" = 115
= 115 % 256
j = 115
swap (s[i], s[j])
swap (s[0], s[115])

Array S = [115, 1, 2, 3, 4, 5, 6, 7, ..., 110, 111, 112, 113, 114, 0,
116, 117, ..., 199, 200, 201, 202, 203, 204, 205,
..., 250, 251, 252, 253, 254, 255]

* Iterasi kedua → i = 1

j = 115

⇒ j = (j + s[i] + k[i % len(k)]) % 256

= (115 + s[1] + k[1 % 8]) % 256

= (115 + 1 + k[1]) % 256

= (116 + "a") % 256 ⇒ desimal dari "a" = 97

= (116 + 97) % 256

= 213 % 256

j = 213

swap (s[i], s[j])

swap (s[1], s[213])

Array S = [115, 213, 2, 3, 4, 5, 6, 7, ..., 112, 113, 114,
0, 116, ..., 210, 211, 212, 1, 214, ..., 250,
251, 252, 253, 254, 255]

* Iterasi ketiga → i = 2

j = 213

⇒ j = (j + s[i] + k[i % len(k)]) % 256

= (213 + s[2] + k[2 % 8]) % 256

= (213 + 2 + k[2]) % 256

= (215 + "p") % 256 ⇒ desimal dari "p" : 112

= (215 + 112) % 256

= 327 % 256

= 71

swap = (s[i], s[j])

swap = (s[2], s[71])

Array s = [115, 213, 71, 3, 4, 5, 6, 7, ..., 69, 70, 2, 72, ...
, 112, 113, 114, 0, 116, ..., 210, 211, 212, 1, 214,
..., 250, 251, 252, 253, 254, 255]

* Iterasi keempat → i = 3

j = 71

→ j = (j + s[i] + k[i % len(k)]) % 256

= (71 + s[3] + k[3 % 8]) % 256

= (71 + 3 + k[3]) % 256

= (74 + "u") % 256 ⇒ desimal dari "u" = 117

= (74 + 117) % 256

= 191 % 256

j = 191

swap (s[i], s[j])

swap [s[3], s[191])

Array s = [115, 213, 71, 191, 4, 5, 6, 7, ..., 69, 70, 2,
72, ..., 112, 113, 114, 0, 116, ..., 189, 190,
3, 192, ..., 210, 211, 212, 1, 214, ..., 250,
251, 252, 253, 254, 255]

* Iterasi kelima → i = 4

j = 191

⇒ j = (j + s[i] + k[i % len(k)]) % 256

= (191 + s[4] + k[4 % 8]) % 256

= (191 + 4 + k[4]) % 256

= (195 + "€") % 256 ⇒ desimal dari "€" = 116

= (195 + 116) % 256

= 311 % 256

j = 55

swap (s[i], s[j])

swap (s[4], s[55])

Array s = [115, 213, 71, 191, 55, 6, 7, 8, ..., 53, 54, 4, 56, 57, ..., 69, 70, 2, 72, 73, ..., 113, 114, 0, 116, 117, ..., 189, 190, 3, 192, ..., 211, 212, 1, 214, ..., 250, 251, 252, 253, 254, 255]

Iterasi ke enam → i = 5

j = 55

~~→ j = (j + s[i] + k[i])~~

Iterasi ke enam → i = 5

j = 55

→ j = (j + s[i] + k[i % len (k)]) % 256

= (55 + s[5] + k[5 % 8]) % 256

= (55 + 5 + k[5]) % 256

= (60 + "r") % 256 ⇒ desimal "r" = 114

= (60 + 114) % 256

= 174 % 256

j = 174

swap (s[i] ; s[j])

swap (s[5], s[55])

Array s = [115, 213, 71, 191, 55, 174, 6, 7, 8, ---, 53, 54, 9, 56, 57, ----, 69, 70, 2, 72, 73, ---, 113, 114, 0, 116, 117, ----, 172, 173, 5, 175, 176, ---, 189, 190, 3, 192, 193, ----, 211, 212, 1, 214, 215, ---, 250, 251, 252, 253, 254, 255]

* Iterasi ketujuh → i = 6

j = 174

⇒ j = (j + S[i] + K[i % len(K)]) % 256

= (174 + S[6] + K[6 % 8]) % 256

= (174 + 6 + K[6]) % 256

= (180 + "a") % 256 ⇒ desimal dari "a" = 97

= (180 + 97) % 256

= 277 % 256

j = 21

swap (S[i], S[j])

swap (S[6], S[174])

Array S = [115, 213, 71, 191, 55, 174, 21, 7, 8, ...,
19, 20, 6, 22, 23, ..., 53, 54, 4, 56,
57, ..., 69, 70, 2, 72, 73, ..., 113, 114, 0, ...
116, 117, ..., 172, 173, 5, 175, 176, ...,
189, 190, 3, 192, 193, ..., 211, 212, 1, 214,
215, ..., 250, 251, 252, 253, 254, 255]

Iterasi ke delapan → i = 7

j = 21

⇒ j = (j + s[i] + k[i % (len(k))]) % 256

= (21 + s[7] + k[7 % 8]) % 256

= (21 + 7 + k[7]) % 256

= (28 + "1") % 256 → desimal "1" = 49

= (28 + 49) % 256

= 77 % 256

j = 77

swap (s[i], s[j])

swap (s[7], s[77])

array s = [115, 213, 71, 191, 55, 21, 77, 8, ..., 19, 20, 6, 22, 23, ... 53, 54, 4, 56, 57, ..., 69, 70, 2, 72, 73, 74, 75, 76, 7, 78, ..., 113, 114, 0, 116, 117, ..., 172, 173, 5, 175, 176, ..., 189, 190, 3, 192, 193, ..., 211, 212, 1, 214, 215, ..., 250, 251, 252, 253, 254, 255]