

* Algoritma : Key - Scheduling Algorithm (KSA)

Kunci : "Saputra" , $\text{len}(k) = 8$

Array S : [0, 1, 2, 3, 4, 5, 6, 7, 8, ..., 100, 101, 102, 103, ..., 253, 254, 255]

* Iterasi I $\rightarrow i = 0$

$j = 0$

$$\begin{aligned} \Rightarrow j &= (j + S[i] + k[i \bmod \text{len}(k)]) \bmod 256 \\ &= (0 + 0 + k[0 \% 8]) \% 256 \\ &= (k[0]) \% 256 \\ &= ("S") \% 256 \Rightarrow \text{nilai desimal dari "S"} = 115 \\ &= 115 \% 256 \\ &= 115 \end{aligned}$$

$j = 115$

Swap $(S[i], S[j])$

Swap $(S[0], S[115])$

Array S : [115, 12, 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 II $\rightarrow i = 1$

$j = 115$

$$\begin{aligned} \Rightarrow j &= (j + S[i] + k[i \% \text{len}(k)]) \% 256 \\ &= (115 + S[1] + k[1 \% 8]) \% 256 \\ &= (115 + 1 + k[1]) \% 256 \\ &= (116 + "a") \% 256 \Rightarrow \text{desimal dari "a"} = 99 \\ &= (116 + 99) \% 256 \\ &= 215 \% 256 \\ &= 215 \end{aligned}$$

Swap $(S[i], S[j])$

Swap $(S[1], S[215])$

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 III $\rightarrow i = 2$

$$j = 213$$

$$\begin{aligned}\Rightarrow j &= (j + s[i] + k[i \% \text{len}(k)]) \% 256 \\ &= (213 + s[2] + k[2 \% 8]) \% 256 \\ &= (213 + 2 + k[2]) \% 256 \\ &= (215 + 'p') \% 256 \Rightarrow \text{decimal dari 'p'} = 112 \\ &= (215 + 112) \% 256 \\ &= 327 \% 256 \\ j &= 71\end{aligned}$$

Swap ($s[i]$, $s[j]$)

Swap ($s[2]$, $s[71]$)

Array $S = [115, 213, 71, 3, 4, 5, 6, 7, \dots, 69, 70, 2, 72, \dots, 112, 113, 114, 0, 116, \dots, 210, 211, 212, 21, 214, \dots, 250, 251, 252, 253, 254, 255]$

Iterasi IV $\rightarrow i = 3$

$$j = 71$$

$$\begin{aligned}\Rightarrow j &= (j + s[i] + k[i \% \text{len}(k)]) \% 256 \\ &= (71 + s[3] + k[3 \% 8]) \% 256 \\ &= (71 + 3 + k[3]) \% 256 \\ &= (74 + 'U') \% 256 \\ &= 191 \% 256 \\ j &= 191\end{aligned}$$

Swap ($s[i]$, $s[j]$)

Swap ($s[3]$, $s[191]$)

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