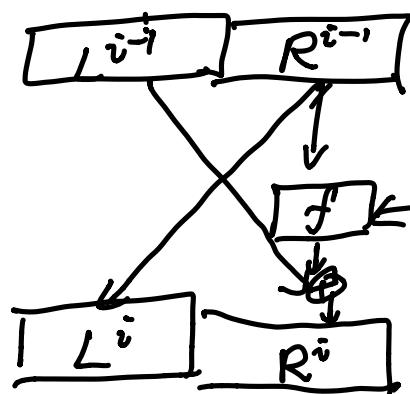


ECE 471/571 SPN, DES
Feistel cipher

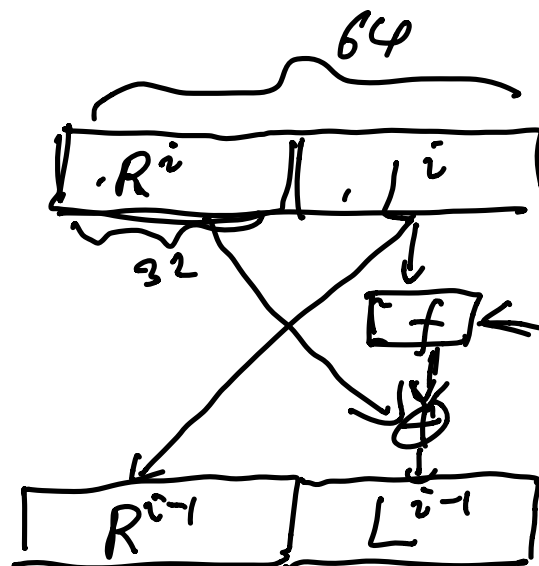
Enc.



$$L^i = R^{i-1}$$

$$R^i = L^{i-1} \oplus f(R^{i-1}, K^i)$$

Dec.



$$R^{i-1} = L^i$$

$$L^{i-1} = R^i \oplus f(R^i, K^i)$$

$$= f(L^i, K^i)$$

for the solution of the SPN question on tophet,
please see the notes published in

weekly materials \rightarrow scanned lecture
notes (2019)
in 2/4/2019.