

$$3) \quad IV = A9 = 1010 - 1001$$

$$C6 \text{ Key} = 1100 \ 0101$$

$$A9 \text{ xor } C6 = 0110 \ 1100 \quad \leftarrow \text{LC}$$

$$X1 = 1010 \ 1000 \quad LT = 1010$$

$$X2 = 1011 \ 1001 \quad RT = 1000$$

$$0110 \text{ LT xor } RT \quad 0110 \text{ xor } 1000 = 1110$$

$$1100 \text{ RK xor } LT \quad 1100 \text{ xor } 1010 = 0110$$

$$Y1 = 1110 \ 0110 = \underline{E6}$$

$$IV = E6$$

$$1110 \ 0110 \text{ xor } 0110 \ 1100 \quad E6 \text{ xor } C6 =$$

$$0110 \ 1100$$

$$1000 \ 1010$$

$$1000 \ 1010 \text{ Key stream}$$

$$X2 = 1011 \ 1001$$

$$LT = 1011 \quad RK = 1010$$

$$RT = 1001 \quad LK = 1000$$

$$LK \text{ xor } RT \quad 1000 \text{ xor } 1001 \quad 0001 = 11$$

$$RK \text{ xor } LT \quad 1010 \text{ xor } 1011 \quad 0001$$

$$Y2 = 0001 \ 0001 = 11$$

$$\boxed{E611}$$