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(1) a (2) b (3) c (4) d (5) c (6) d (7) a

(8) sequence number is 2^3 .

Window size is 10

0 1 2 3 4 { 5 6 7 0 1 2 } { 3 4 5 6 } { 7 0 1 2 3 4 5 6 7 }
← RRI 4 new
have traversed Current window

new window: { 3 4 5 6 7 0 1 2 }.

(9) Third collision A: {0, 1, ..., 7} B: {0, 1, ..., 7}.

Total number: $8 \times 8 = 64$.

B win: B: 0, A: 0 7
B: 1, A: 1 6
↓
B: 6, A: 7 1

The probability is: $\frac{1+2+\dots+7}{64} = \frac{28}{64}$.

$$(10)_{(i)} T_f = \frac{625 \text{ Byte}}{1 \text{ Mbps}} = 5 \text{ ms}$$

$$T_p = 5 \times 4000 \text{ ms} = 20 \text{ ms}$$

$$\alpha = \frac{T_p}{T_f} = 4$$

$$2\alpha + 1 = 9 > W.$$

$$\text{transferred per second} = \frac{1}{T_f + 2T_p} = 40$$

$$\frac{W}{1+2\alpha} = 0.778$$

$$\text{per second} = \frac{W}{1+2\alpha} \times \frac{1}{T_f + 2T_p} \approx 31 \text{ F}$$

$$\text{ciii) } W \geq 10 \geq 1+2\alpha$$

(11)

(i)