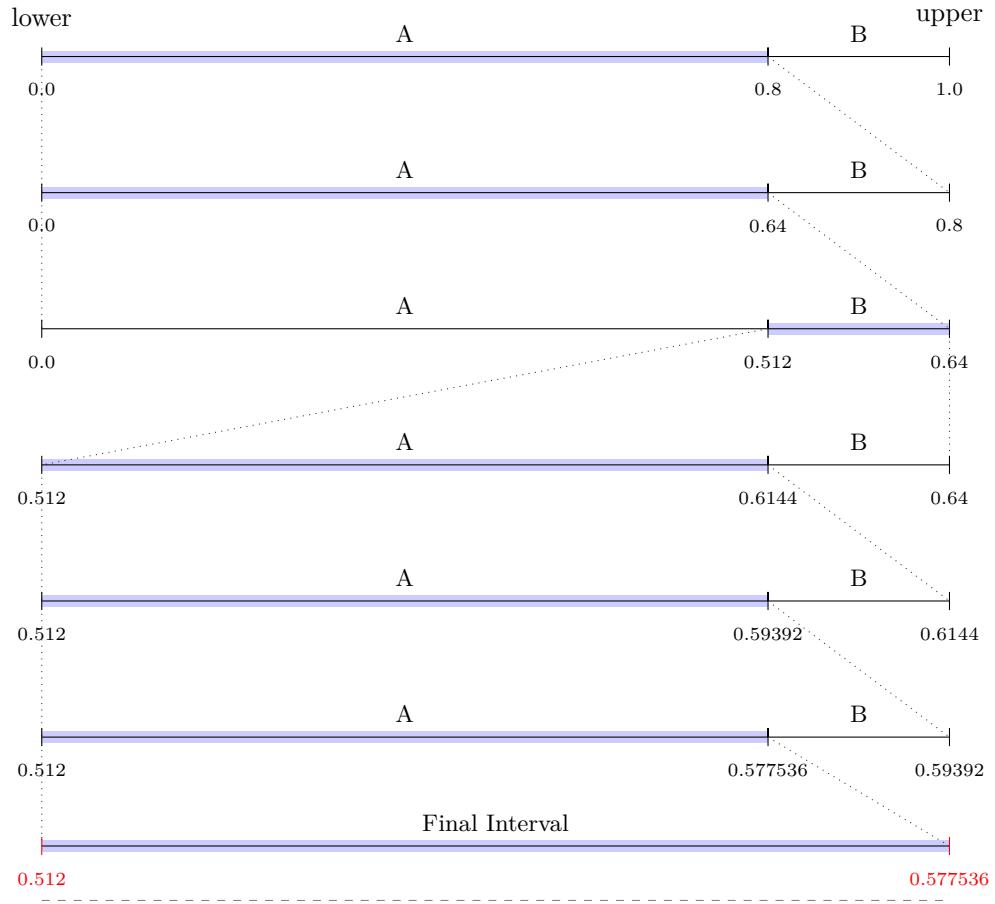


Source: $P(A) = 0.8$, $P(B) = 0.2$

Sequence: $A A B A A A$



Final Interval: $[0.512, 0.577536)$

$$0.512 \leq 17 \cdot 2^{-5} < 18 \cdot 2^{-5} \leq 0.577536$$

Output Code(convert 17 to binary form): 10001 (5 bits)

Efficiency: $5/6 \approx 0.83$ bits/symbol