

POPCNT

$$\begin{array}{l}
 B = \overbrace{101100110}^{O(1)} \underline{001010} \\
 R = \quad \quad \quad 5 \quad \quad \quad 9 \\
 R' = \quad \quad \quad 2 \quad 3 \quad 5 \quad 2 \quad 3 \quad 4 \\
 \underbrace{\quad \quad \quad}_{w^2} \quad \underbrace{\quad \quad}_{w}
 \end{array}$$

$$\frac{n}{w^2} \cdot \lg n + \frac{n}{w} \cdot \lg w^2 \xrightarrow{w = \Omega(\lg n)} O\left(\frac{n}{\lg^2 n} \cdot \lg n + \frac{n}{\lg n} \cdot \lg \lg^2 n\right)$$

$$= o(n) + n$$