

1st search: violet

$$\frac{19}{2} = 9.5$$
 $\frac{7}{2}$

found

3rd search: yellow

found

Color array:

$$\begin{array}{c} L \\ \\ M \\ \\ H \\ \\ L \\ \\ M \\ \\ H \\ \\ \{ \} \\ \\ I \end{array}$$

of iterations
 $\approx \log_2(\text{list size})$