

COURSE: Concrete Mathematics

THEME: chap 1 recurrent problem exercises

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1.10:

$$\begin{array}{|c|} \hline A \xleftarrow{n} B \\ \hline \end{array} = R_n$$

$$\begin{array}{|c|} \hline Q_n = \\ \hline \end{array} \begin{array}{|c|} \hline A \xrightarrow{1} B \\ \hline \end{array} \begin{array}{|c|} \hline \downarrow n-1 \\ \hline \end{array} \begin{array}{|c|} \hline \downarrow n-1 \\ \hline \end{array} \begin{array}{|c|} \hline B \\ \hline \end{array} = 2R_n + 1$$

↓

$$\begin{array}{|c|} \hline A \xrightarrow{n} B \\ \hline \end{array} = Q_n$$

$$\begin{array}{|c|} \hline R_n = \\ \hline \end{array} \begin{array}{|c|} \hline A \xleftarrow{n-1} B \\ \hline \end{array} \begin{array}{|c|} \hline \downarrow 1 \\ \hline \end{array} \begin{array}{|c|} \hline A \xrightarrow{n-1} B \\ \hline \end{array} \begin{array}{|c|} \hline \downarrow 1 \\ \hline \end{array} \begin{array}{|c|} \hline A \xleftarrow{n-1} B \\ \hline \end{array} \begin{array}{|c|} \hline \downarrow 1 \\ \hline \end{array} \begin{array}{|c|} \hline B \\ \hline \end{array} = R_{n-1} + 1 + Q_{n-1} + 1 + R_{n-1} = Q_n + Q_{n-1} + 1$$