We provide complete pseudocode for \( Q \). In the following, \( \text{PSEUDOCODE FOR THE} \ Q \ \text{RECOGNIZER} \)

\[
\begin{align*}
\text{NORMALIZE} & : \text{points}, n, m + 1) \to \text{score} < \infty \\
\text{COMPUTE-LOWER-BOUND} & : \text{points, template, step, int} \to \text{LB} \to \infty \\
\text{COMPUTE-TO-ORIGIN} & : \text{points, int} \to \text{translate and rescale each point} \\
\text{SCALE} & : \text{points, m} + 1) \\
\text{APPEND} & : \text{points, q} + 1) \to \text{append} \\
\text{MATCH} & : \text{points}, \text{template} \to \text{score} < \infty \\
\text{NORMALIZE-POINT} & : \text{points, int} \to \text{point} \to \text{new point} \\
\text{SCALE-POINT} & : \text{points, m} \to \text{rescale} \\
\text{COMPUTE-LUT} & : \text{points, m} \to \text{lookup table} \\
\end{align*}
\]

The following pseudocode implements gesture preprocessing: resampling, translation to origin, rescaling into the \( m \times m \) grid, and computation of the look-up table. Except for the new \( \text{COMPUTE-LUT} \) function and changes in the \( \text{SCALE} \) function, this pseudocode is practically the same as for \$ P \{ 50 \} \ (p. 280).