1. Do 5 iterations of secant method

\[ x^2 - 4x + 1 = 0, \quad x_0 = 2, \quad x_1 = 5. \]

\[
\begin{align*}
\text{f} &= \text{inline('x.^2-4*x+1')} ; \\
a &= 2; \ b &= 5; \ \text{sc} &= \begin{bmatrix} a & f(a) \\ b & f(b) \end{bmatrix} ; \\
\text{for} \ i &= 1:5 , \\
c &= b - f(b)/((f(b)-f(a))/(b-a)) ; \\
\text{sc} &= \begin{bmatrix} \text{sc} & c & f(c) \end{bmatrix} ; \\
a &= b ; \ b &= c ; \\
\text{end} , \\
'x' & \quad 'f(x)' , \\
\text{sc} \\
x_r &= \text{c}
\end{align*}
\]

**output:**

\[
\begin{array}{cc}
x & f(x) \\
2.0000 & -3.0000 \\
5.0000 & 6.0000 \\
3.0000 & -2.0000 \\
3.5000 & -0.7500 \\
3.8000 & 0.2400 \\
3.7273 & 0.0165 \\
3.7320 & 0.0003 \\
\end{array}
\]

\[
x_r = 3.7320
\]