

$$\begin{array}{c}
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\frac{\frac{\frac{}{\{1 = 1 \wedge n \geq 0\}}{\text{asgn}} \quad \frac{\frac{}{\{f = 1 \wedge n \geq 0\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}} \quad \frac{\frac{\frac{}{\{f = 1 \wedge 1 = 1 \wedge n \geq 0\}}{\text{asgn}} \quad \frac{\frac{}{\{f = 1 \wedge i = 1 \wedge n \geq 0\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}} \\
\frac{\frac{}{\{n \geq 0\}} \quad \frac{\frac{}{\{f := 1\}}{\text{asgn}} \quad \frac{\frac{}{\{i := 1\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}} \quad \frac{\frac{}{\{f = 1 \wedge i = 1 \wedge n \geq 0\}}{\text{asgn}} \quad \frac{\frac{}{\{f = 1 \wedge i = 1 \wedge n \geq 0\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}} \\
\frac{}{\{n \geq 0\} f := 1 ; i := 1 \{f = 1 \wedge i = 1 \wedge n \geq 0\}}
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\qquad
\begin{array}{c}
\frac{\frac{\frac{\frac{}{\{f \cdot i = \text{fact}(i-1) \cdot i \wedge 1 \leq i \wedge i \leq n\}}{\text{asgn}} \quad \frac{\frac{}{\{f := f \cdot i\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}} \quad \frac{\frac{\frac{}{\{f = \text{fact}(i-1) \wedge 1 \leq i \wedge i \leq n\}}{\text{asgn}} \quad \frac{\frac{}{\{f := f \cdot i\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}}}{\text{seq}} \\
\frac{\frac{}{\{f = \text{fact}(i-1) \wedge 1 \leq i \wedge i \leq n+1 \wedge i \leq n\}} \quad \frac{\frac{}{\{f := f \cdot i\}}{\text{asgn}} \quad \frac{\frac{}{\{i := i+1\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}} \quad \frac{\frac{}{\{f = \text{fact}(i-1) \wedge 1 \leq i \wedge i \leq n+1\}} \quad \frac{\frac{}{\{f := f \cdot i ; i := i+1 ; f = \text{fact}(i-1) \wedge 1 \leq i \wedge i \leq n+1\}}{\text{asgn}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}}}{\text{seq}} \\
\frac{\frac{}{\{f = \text{fact}(i-1) \wedge 1 \leq i \wedge i \leq n+1\}} \quad \frac{\frac{}{\{\mathbf{while} \ i \leq n \ \mathbf{do} \ \{f := f \cdot i ; i := i+1\}\}}{\text{whl}} \quad \frac{\frac{}{\{f = \text{fact}(i-1) \wedge 1 \leq i \wedge i \leq n+1 \wedge \neg(i \leq n)\}}{\text{whl}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}}}{\text{seq}} \\
\frac{\frac{}{\{f = 1 \wedge i = 1 \wedge n \geq 0\}} \quad \frac{\frac{}{\{\mathbf{while} \ i \leq n \ \mathbf{do} \ \{f := f \cdot i ; i := i+1\}\}}{\text{whl}} \quad \frac{\frac{}{\{f = \text{fact}(n)\}}{\text{seq}}}{\text{s/w}}}{\text{s/w}}}{\text{seq}}}{\text{seq}}}{\text{seq}} \\
\frac{}{\{n \geq 0\} \mathbf{Fact} \{f = \text{fact}(n)\}}
\end{array}$$