$\langle exp \rangle ::= \langle exp \rangle + \langle exp \rangle$
$\quad | \quad \text{id}$

$\langle stmt \rangle ::= \langle stmt \rangle; \langle stmt \rangle \mid \textbf{skip} \mid v := \langle expr \rangle$
$\quad | \quad \textbf{input } \vec{v} \mid \textbf{output } \vec{v}$
$\quad | \quad \textbf{if } \langle expr \rangle \textbf{ then } \langle stmt \rangle \textbf{ else } \langle stmt \rangle$
$\quad | \quad \textbf{while } \langle expr \rangle \langle stmt \rangle$

$\langle expr \rangle ::= v \mid \textbf{tt} \mid \textbf{ff} \mid \langle expr \rangle \vee \langle expr \rangle \mid \neg \langle expr \rangle.$

$\langle stmt \rangle ::= \langle stmt \rangle; \langle stmt \rangle \mid \textbf{skip} \mid v :=$