

$$\text{VAR:a} \left(\frac{R_2}{0} \right)$$

$$\text{VAR:i} \left(\frac{R_2}{0} \right)$$

$$\text{CST:2} \left(\frac{R_1}{0} \right)$$

$$\begin{array}{c|ccc} \uparrow & \text{reg} & \text{reg} & \text{reg} \\ \hline \text{reg} & 0 & 0 & 0 \end{array}$$

$$\begin{array}{c|ccc} \uparrow & \text{reg} & \text{imm} & \text{imm} \\ \hline \text{imm} & 1 & 0 & 0 \end{array}$$

$$\text{SHL} \left(\frac{R_4 \quad R_5 \quad R_6}{1 \quad 1 \quad 0} \right)$$

$$\begin{array}{c|ccc} \uparrow & \text{reg} & \text{reg} & \text{reg} \\ \hline \text{reg} & 0 & 0 & 0 \end{array}$$

$$\begin{array}{c|ccc} \uparrow & \text{reg} & \text{t1} & \text{reg} \\ \hline \text{reg} & 0 & \infty & 0 \\ \text{reg} & 0 & \infty & 0 \\ \text{t1} & \infty & 0 & \infty \end{array}$$

$$\text{ADD} \left(\frac{R_7 \quad R_8 \quad R_9}{1 \quad 0 \quad 0} \right)$$

$$\begin{array}{c|ccc} \uparrow & \text{reg} & \text{t2} & \text{t3} \\ \hline \text{reg} & 0 & \infty & \infty \\ \text{t2} & \infty & 0 & \infty \\ \text{t3} & \infty & \infty & 0 \end{array}$$

$$\text{LDW} \left(\frac{R_{10} \quad R_{11} \quad R_{12}}{1 \quad 1 \quad 1} \right)$$

| | rule | cost |
|----------|--|------|
| R_1 | $\text{imm} \leftarrow \text{CST}$ | 0 |
| R_2 | $\text{reg} \leftarrow \text{VAR}$ | 0 |
| R_3 | $\text{reg} \leftarrow \text{imm}$ | 1 |
| R_4 | $\text{reg} \leftarrow \text{SHL}(\text{reg}, \text{reg})$ | 1 |
| R_5 | $\text{reg} \leftarrow \text{SHL}(\text{reg}, \text{imm})$ | 1 |
| R_6 | $\text{t1} \leftarrow \text{SHL}(\text{reg}, \text{imm})$ | 0 |
| R_7 | $\text{reg} \leftarrow \text{ADD}(\text{reg}, \text{reg})$ | 1 |
| R_8 | $\text{t2} \leftarrow \text{ADD}(\text{reg}, \text{t1})$ | 0 |
| R_9 | $\text{t3} \leftarrow \text{ADD}(\text{reg}, \text{reg})$ | 0 |
| R_{10} | $\text{reg} \leftarrow \text{LDW}(\text{reg})$ | 1 |
| R_{11} | $\text{reg} \leftarrow \text{LDW}(\text{t2})$ | 1 |
| R_{12} | $\text{reg} \leftarrow \text{LDW}(\text{t3})$ | 1 |