caller save: caller has to save if register content should survive proc. call
- callee can do what it wants
- callee save: callee has to save if it wants to use it
- caller knows register is not overwritten

\[ \text{write reg} \rightarrow \text{call callee} \rightarrow \text{read reg} \]
\[ \text{callee save: yes} \rightarrow \text{caller save: no} \]

on swap-ele-su, slide 13:

\[ \text{swap-ele-su} \leftarrow a \text{ in } r0i, \ i \text{ in } rsi \ (1) \]
\[ \rightarrow \text{call swap} \leftarrow \text{reg13 in } r0i, \ \text{reg13 in } rsi \ (2) \]
\[ \leftarrow a, i \text{ are used} \ (3) \]

\(1 \rightarrow 2 \rightarrow a, i \text{ moved to other registers reg1, reg2} \)

\(3 \rightarrow \text{reg1, reg2 callee save} \]

- [here: reg1 = r12, reg2 = r6x]

\( \rightarrow \text{reg1, reg2 have to be written to stack and restored later} \)