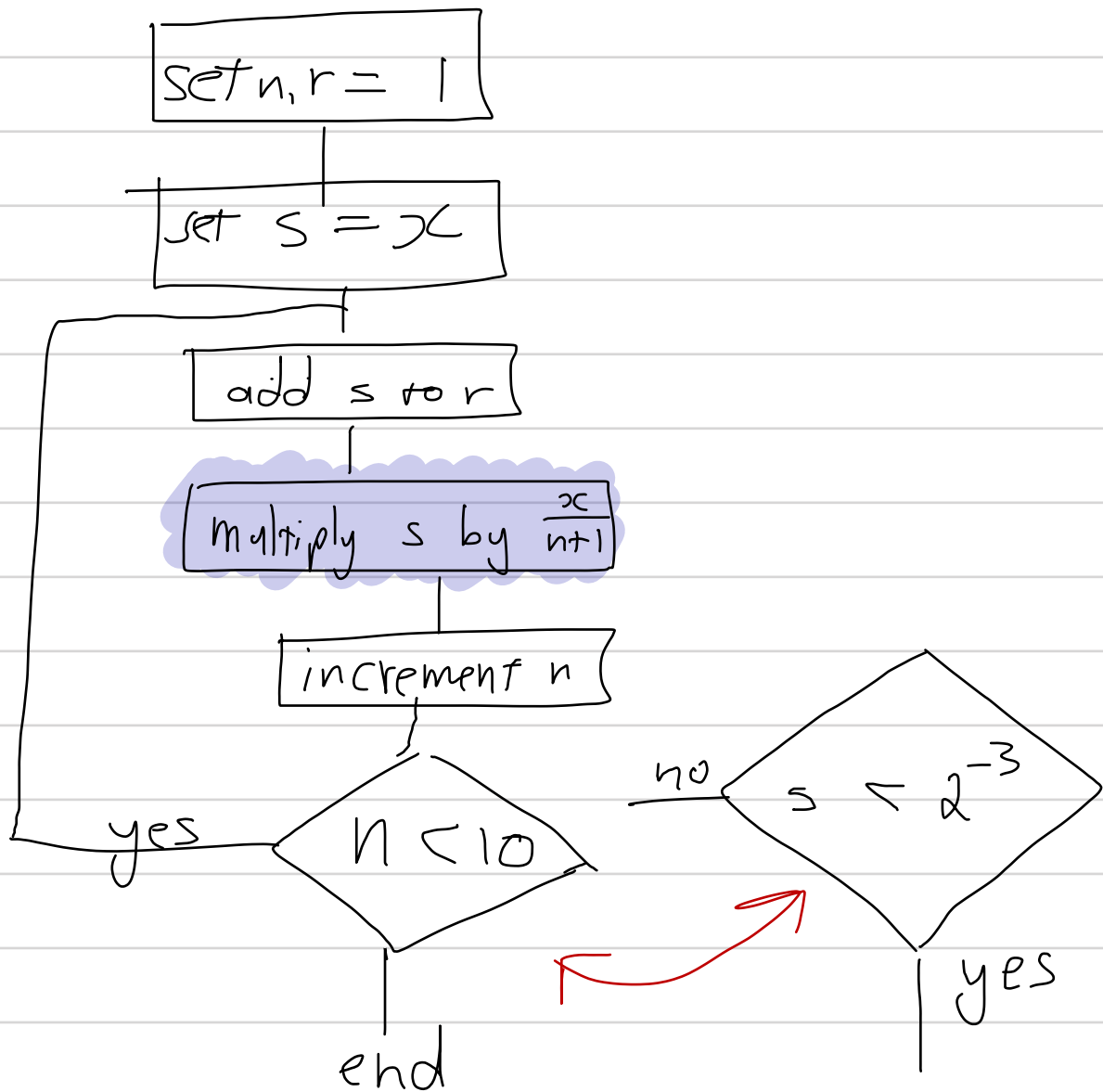


$S \equiv$  running term  
 $r \equiv$  running total  
 $n \equiv$  counter  
 $\frac{x}{n!} \rightarrow$  interterm factor.



## Guard bits

Additional bit after the LSB (less significant than the LSB). Holds information that may be lost during the justification phase.

$$\begin{array}{r}
 0.100e0000 \\
 + 0.101e1111
 \end{array}$$

Justify exponents:

$$\begin{array}{r}
 0.1000e0000 \\
 + 0.0101e0000 \\
 \hline
 0.1101e0000
 \end{array}$$

So adding a guard bit preserves info.

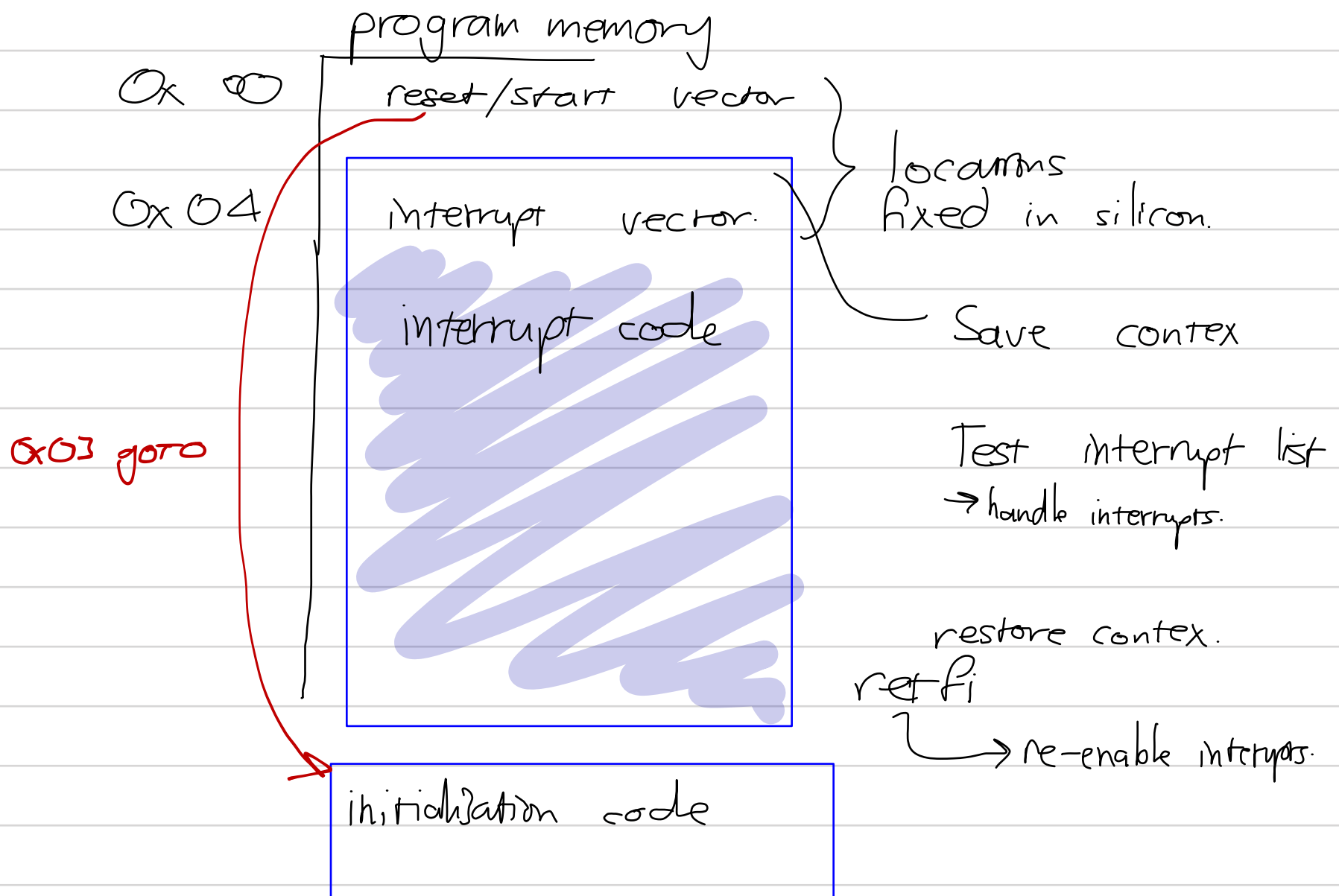
Justify exponents:

$$\begin{array}{r} 0.1000 \color{blue}{0} e0000 \\ + 0.0101 e0000 \\ \hline 0.1101 e0000 \end{array}$$

Round? Trunc? Ceil? Floor?

Ans = if guard bit == 1; and LSB = 0, then increase LSB to 1; otherwise discard.

### Vectors & addressing



0x00	Reset vector
0x04	High priority call high interrupt handler (save high context) ↳ goto to reduce "stack burden"
0x08	Low priority. call low priority interrupt handler. (save low context) ↳ goto to reduce stack burden.

NB: each interrupt adds two layers to the PC stack.