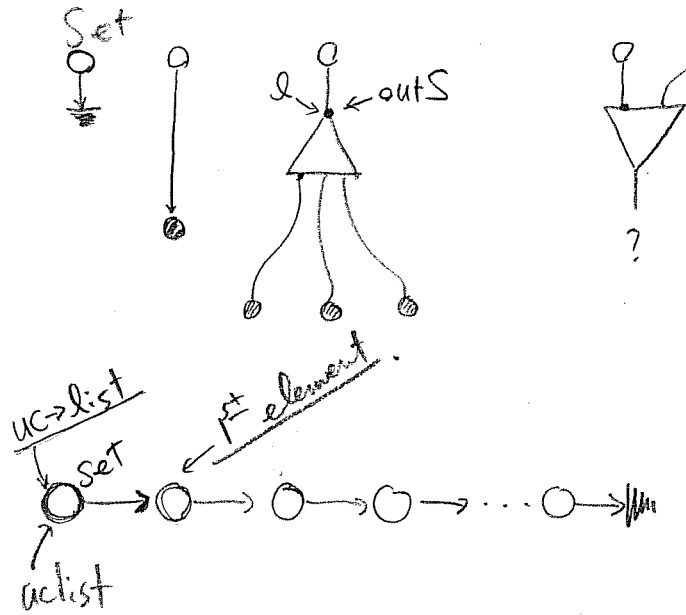
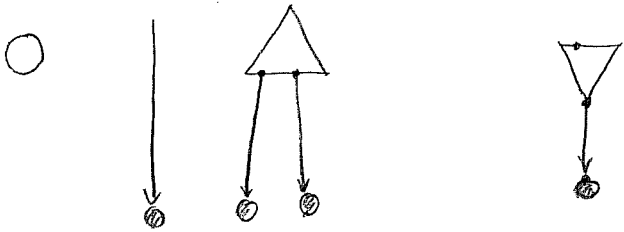


SET-FIND #1



uc->list->list

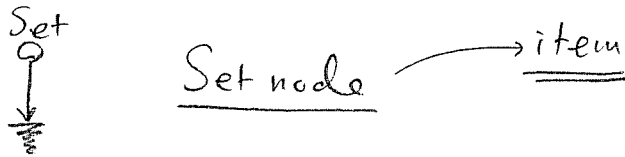
the 1st element.



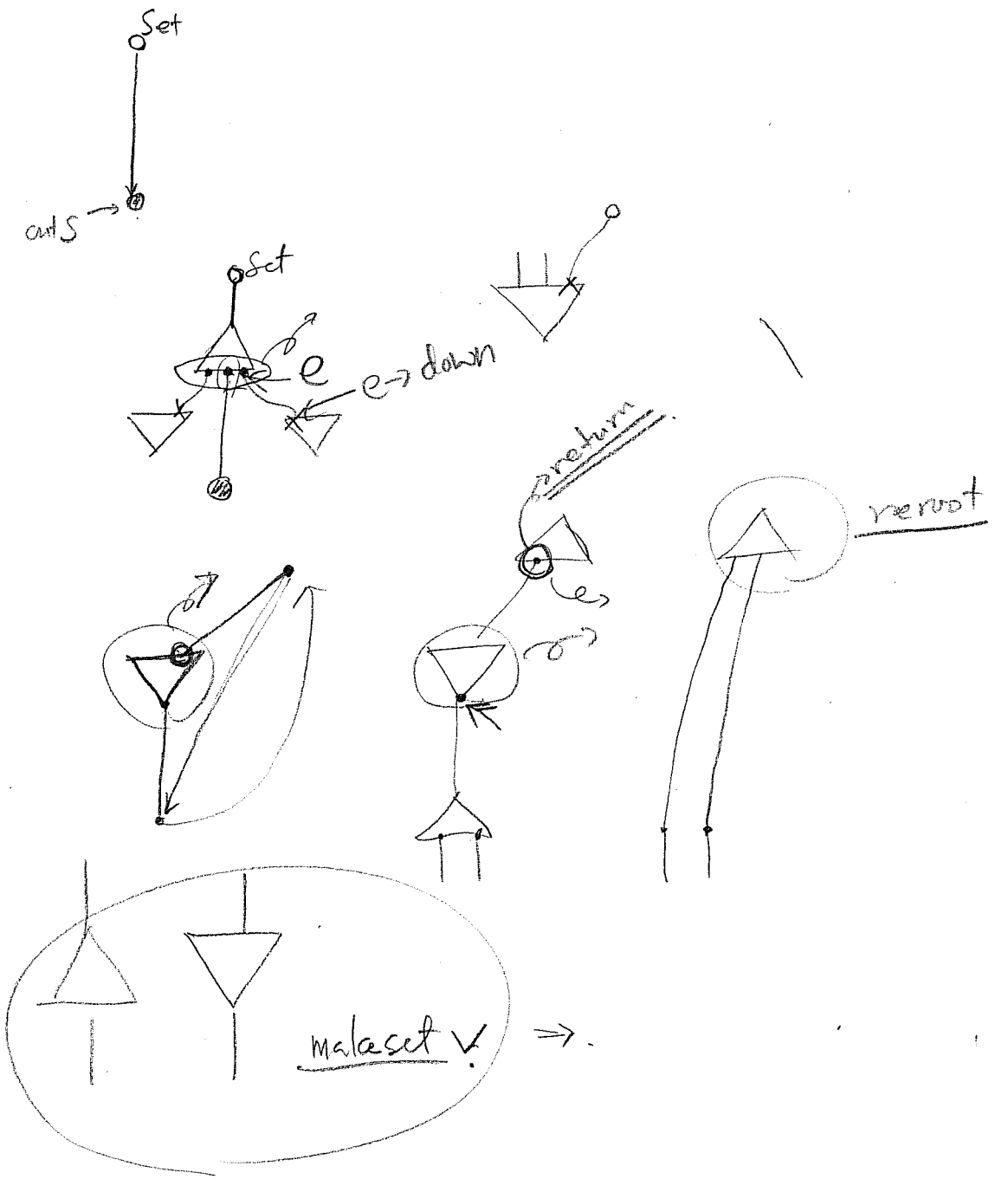
uc->list : a set

uc->list->list : an element

SET-DESTROY



I tagged a set when creating it.
 This tag is a variable inside the set.
 I need to get the variable back when destroying that set.



Set

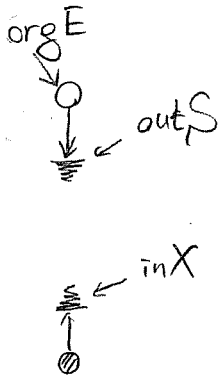


?



Element

1.

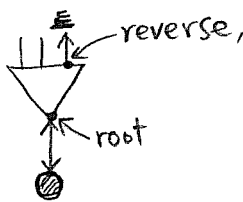
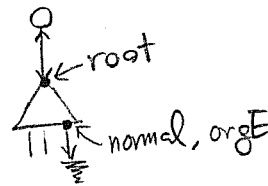
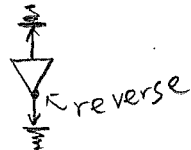
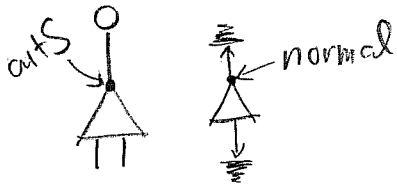


Set

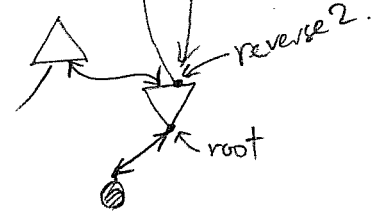
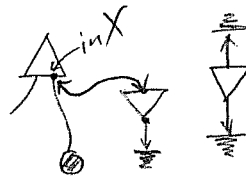
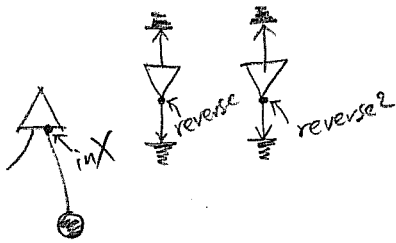
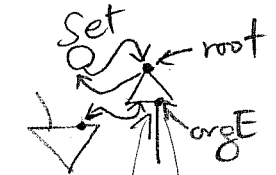
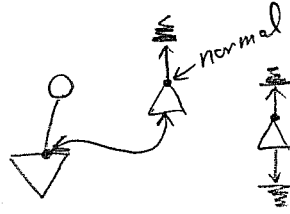
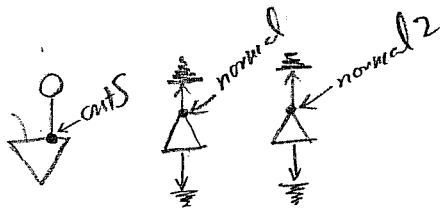
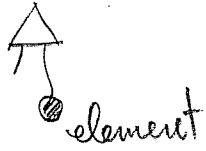
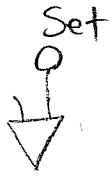


Element

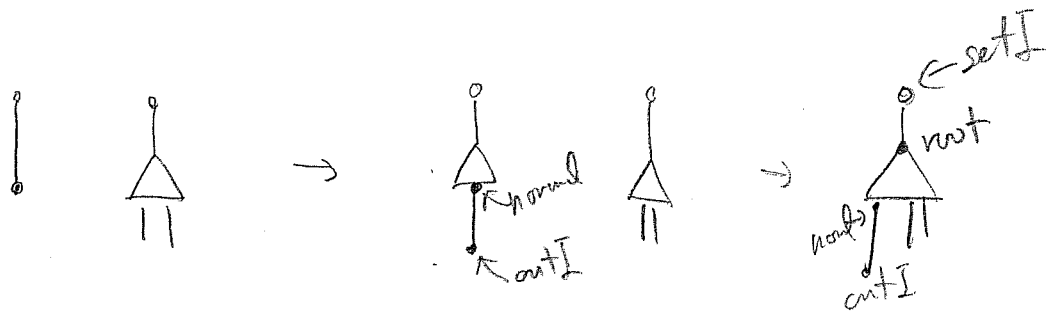
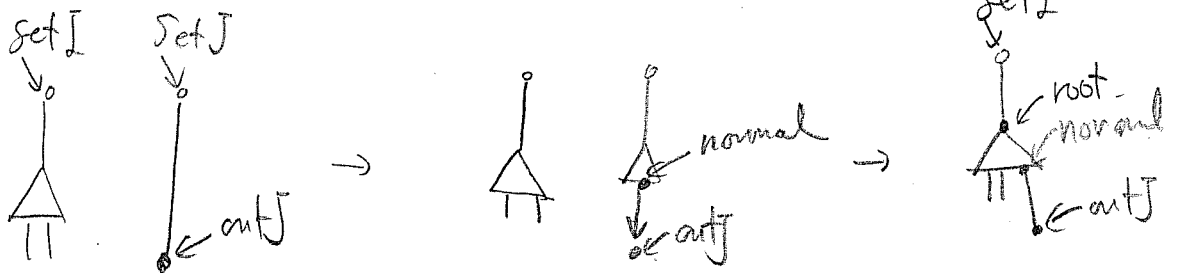
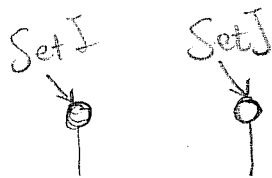
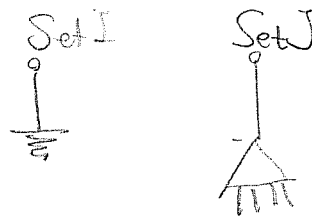
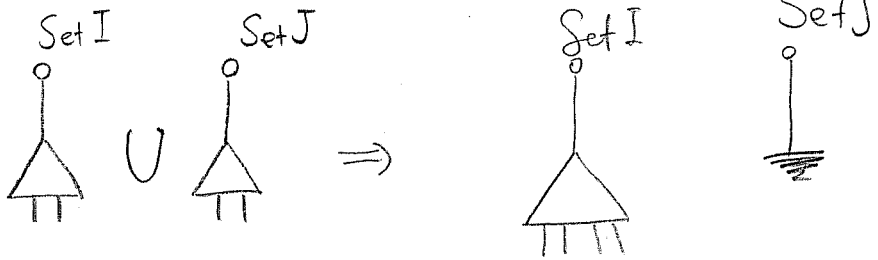
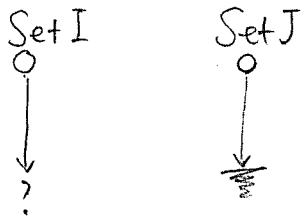
1.



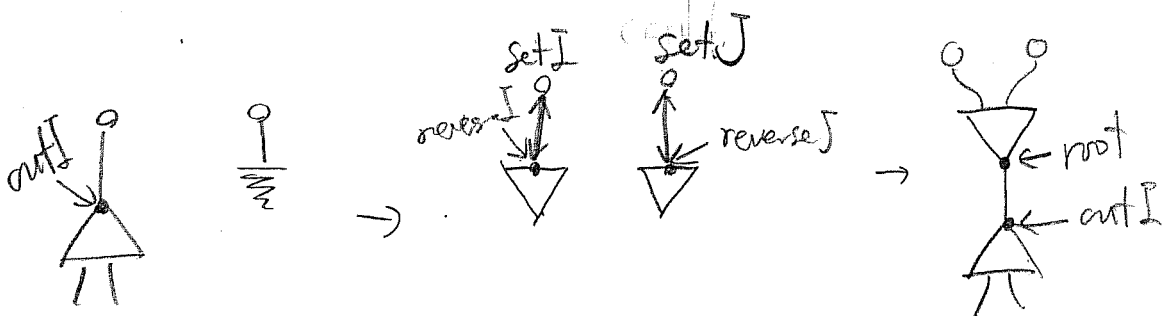
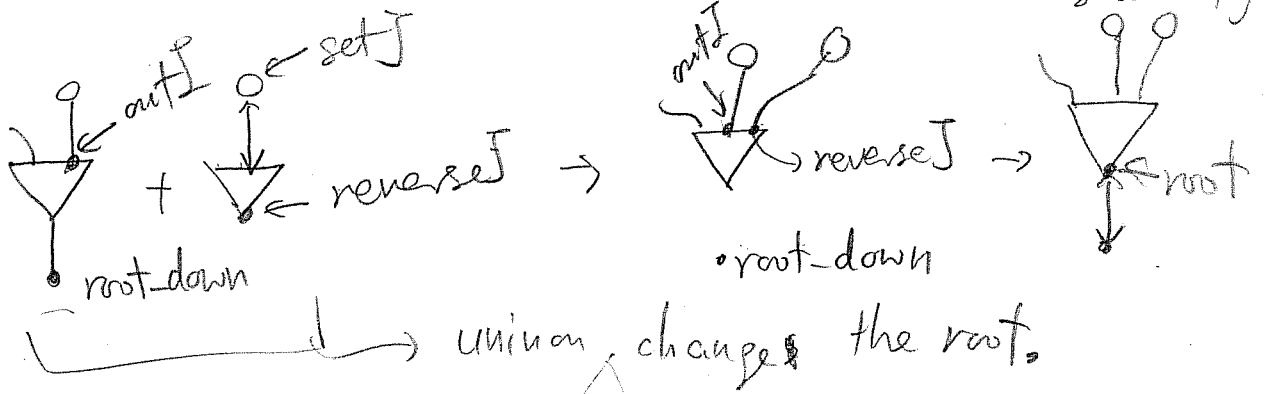
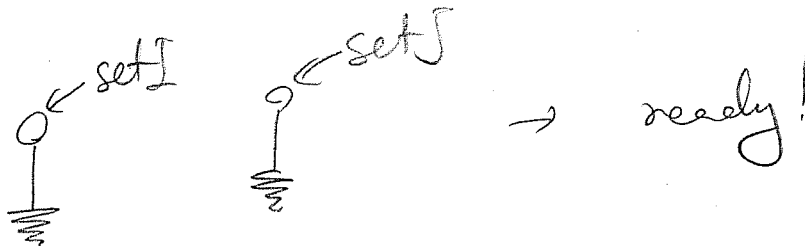
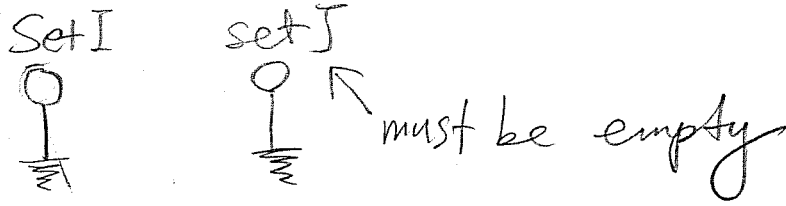
SET-INSERT #2



SET-UNION #1



SET-COPY



— Building a segment tree —

$$1. \{[a_1, b_1] \dots [a_n, b_n]\} = I$$

$$2. \{a_1, \dots, a_n, b_1, \dots, b_n\} = X$$

$$3. \text{Sort elements in } X, \text{ say sorted } X \text{ is } \{p_1, \dots, p_m\} = Y$$

4. Create elementary intervals using Y :

$$(-\infty, p_1) [p_1, p_1] (p_1, p_2) \dots [p_m, p_m] (p_m, +\infty)$$

$$\hookrightarrow \text{Count: } 1 + 2m = 1 + 2 \times (2n) = 4n + 1.$$

5. Build a tree [balanced], and call it T .

two ways of building $\left\{ \begin{array}{l} 1. \text{one-by-one} \\ 2. \text{all at once} \end{array} \right.$

6. Assign intervals in I to nodes in T , and T_I .

\Rightarrow

Add a new point to T .

$$(p_k, p_{k+1}) \rightarrow (p_k, x) [x, x] (x, p_{k+1})$$

1. Replace (p_k, p_{k+1}) with $[x, x]$

2. Insert (p_k, x) .

3. Insert (x, p_{k+1}) .

$$(p_k, x) [x, x] (x, p_{k+1}) \rightarrow (p_k, p_{k+1})$$

1. Remove (p_k, x)

2. Remove (x, p_{k+1})

3. Replace $[x, x]$ with (p_k, p_{k+1})