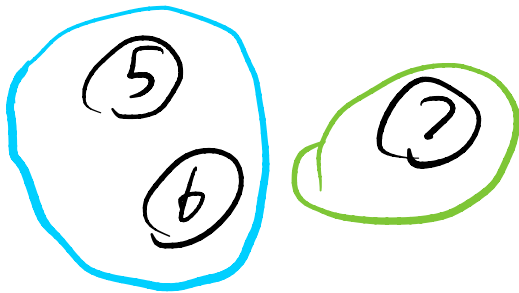
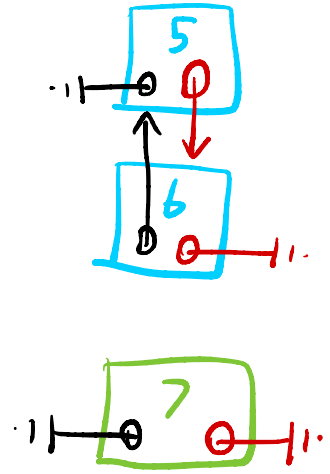
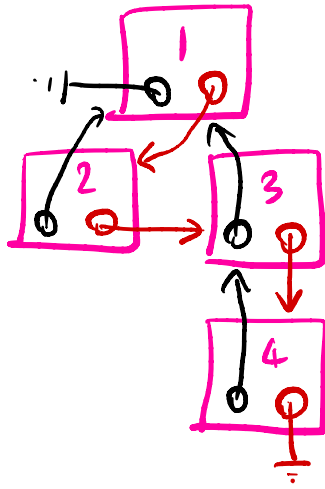
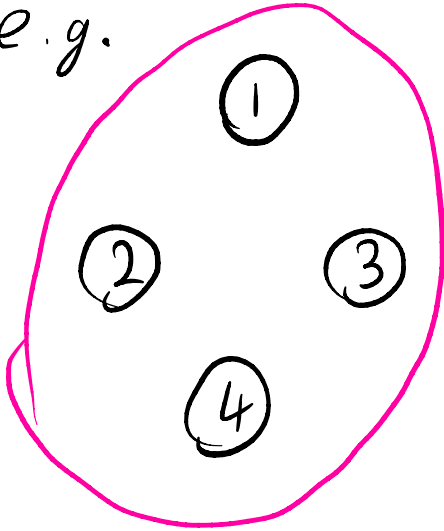


## Question 12.

Use two pointers: one pointing towards the "partition representative" and the other acting as a linked list.

e.g.



⤴: parent pointer  
 ⤵: linked list pointer

To get the set with 4, follow the pointer from 4 up to the parent 1, update the parent pointer to 1, and then follow the linked list pointers from 1 → 2 → 3 → 4. For get-set-with, just perform the above procedure.

For merge, e.g. pink with blue, set parent pointer of 5 to 1, and linked list pointer of 4 to 5, i.e.:

