



Design consideration:

1. Use a search tree to organize all converting rules
2. For given Roman numeral, from left to right, always use longest match, each element should be matched
3. Check exceptions

e.g. XXXIX: XXX(30); IX(9)

Exceptions:

VIIIV: VII(7) V(5) : same digit can't be twice

XM: X(10), M(100) : low digit can't be before high digit

AX: A (not in search tree)