3. We will solve this one by guessing the form of the recurrence as O(n2)

T(n) < c(n – 1)2 + n = c(n2 – 2n + 1) + n

=cn2 – 2cn + c + n = cn2 – n(c2+1) + c

< cn2 + c

Which implies that T(n) = O(n2) as desired.