

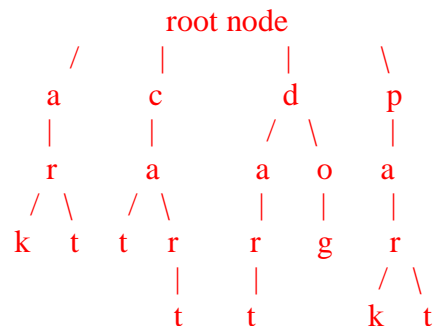
3) (5 pts) ALG (Tries)

Consider inserting the following words into an initially empty trie, where nodes are created ONLY if they are necessary. Note that an empty trie is a NULL pointer and has zero nodes. How many nodes will be created after all these words are inserted, including the root node?

cat
part
do
art
cart
car
dog
dart
ark
park

No need to include any drawing, just give your final answer, but be very careful, since the grading is completely based on your numeric answer and no work at all.

Here is a text drawing of the resulting trie:



Total number of nodes = 21 (1 + 4 + 5 + 7 + 4)

Grading: 5 pts for 21

4 pts for 20 or 22

3 pts for 19 or 23

2 pts for 18 or 24

1 pt for 17 or 25

0 pts otherwise