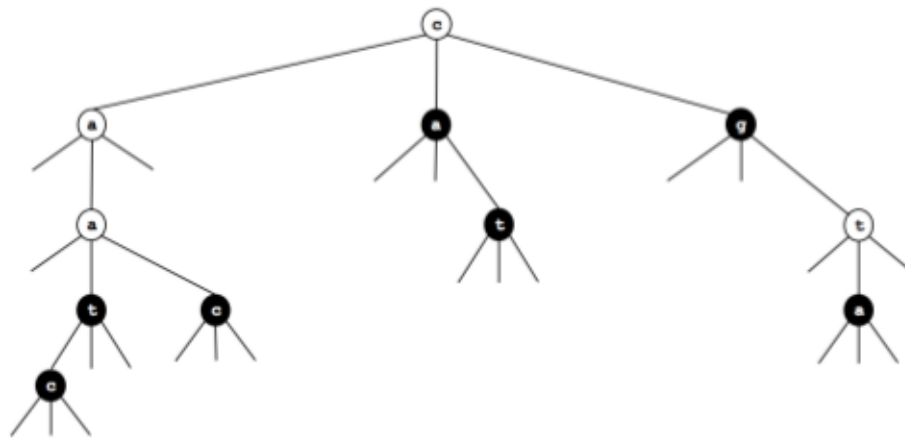


## Homework 18

### 1. Spring 2008 Final Question 5

Consider the following TST, where the black nodes correspond to strings in the TST.



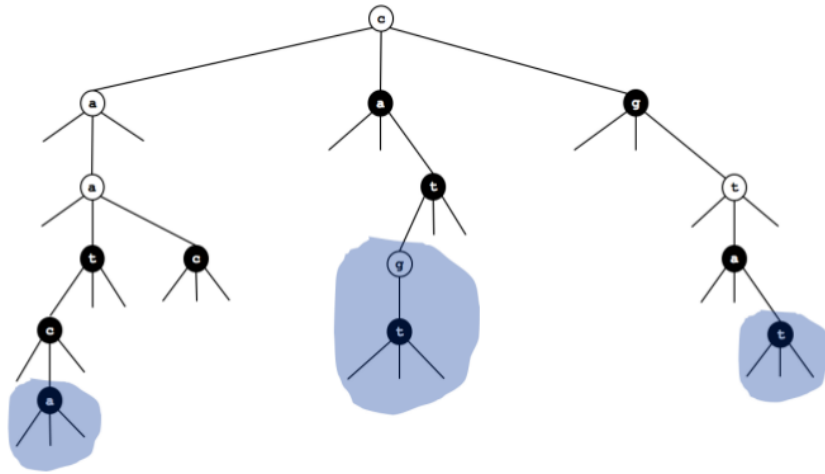
A. Which 7 strings (in alphabetical order) are in the TST?

aac aat ac ca ct g ta

B. Draw the results of adding the following strings into the TST above:

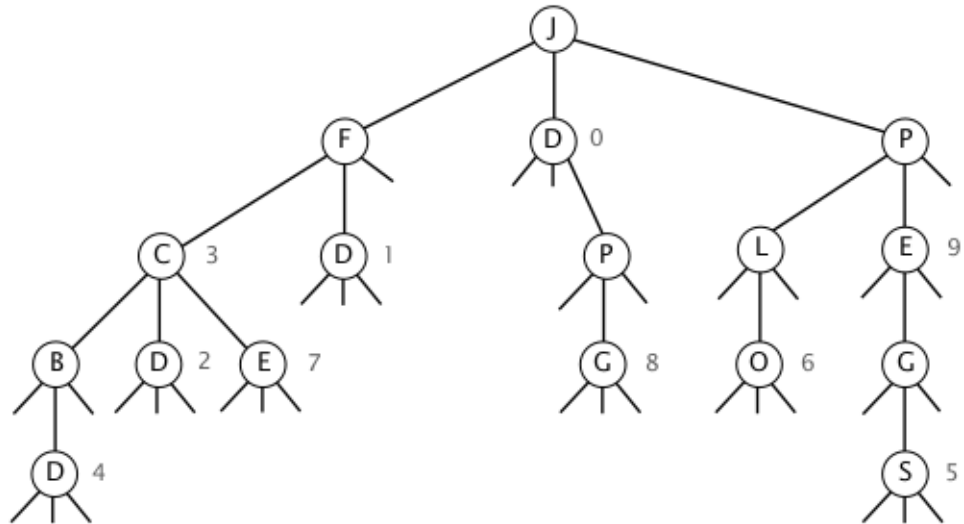
cgt aaca tt

Results cut from solution pdf after first drawing the correct answer by hand.



## 2. Fall 2011 Final Question 8

Consider the following ternary search trie, with string keys and integer values.

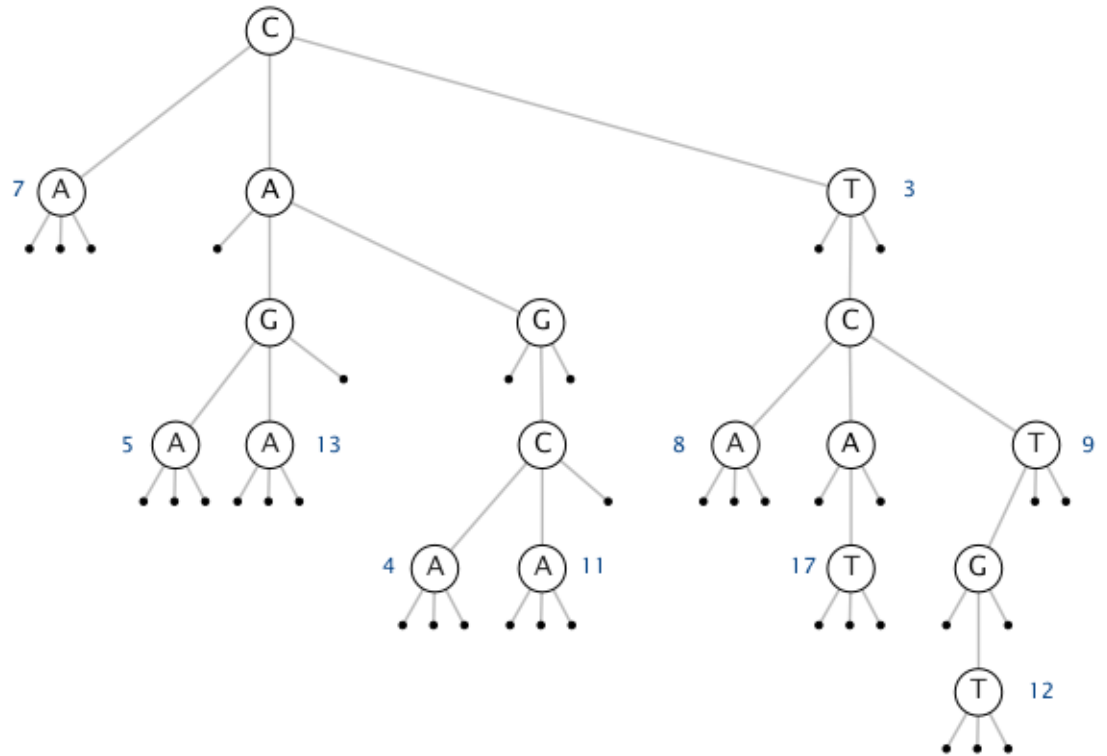


Circle which one or more of the following strings are keys in the TST.

B   ☐ BD   ☐ C   ☐ CD   D   ☐ E   ☐ FD   JLO   JP   JPEG   JPEGS  
☐ JPG   PEG   ☐ PEGS

### 3. Fall 2012 Final Question 8

Consider the following ternary search trie, where the values are shown next to the nodes of the corresponding string keys.

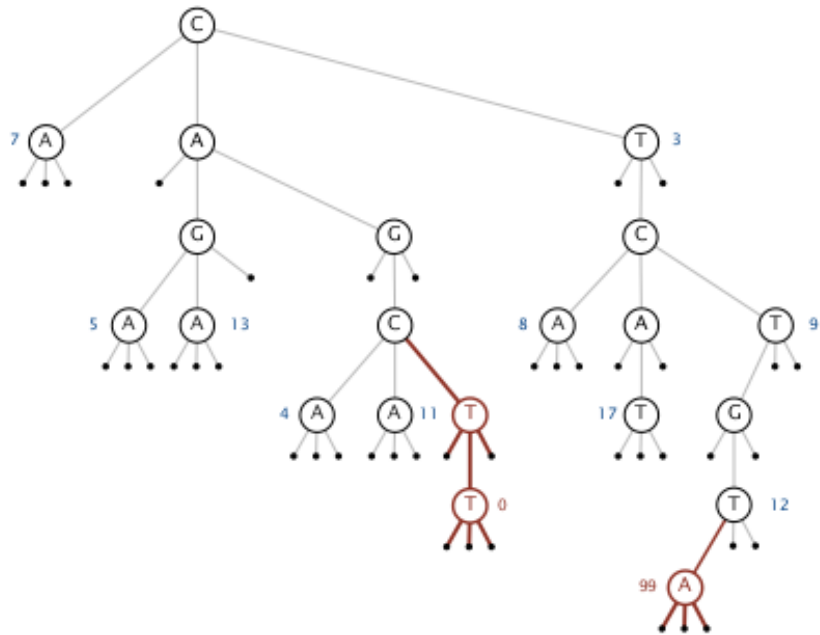


A. Circle which one or more of the following strings are keys in the TST?

☐ A   AGA   CA   ☒ CAA   CACA   CAT   ☒ CGA   ☒ CGCA   ☐ TA  
 TC   TCA   ☒ TGT   ☒ TT   TTT

B. Insert the two strings CGTT and TGA into the TST with the associated values 0 and 99, respectively; update the figure above to reflect the changes.

Results cut from solution pdf after first drawing the correct answer by hand.

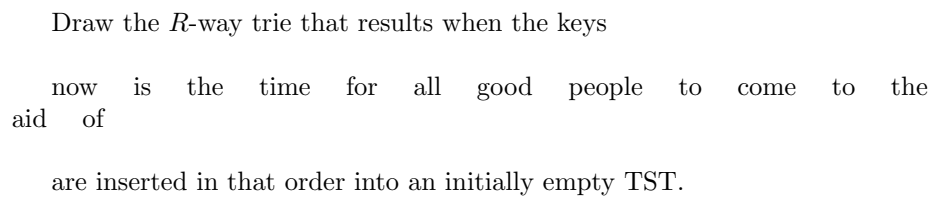


#### 4. Question 5.2.3 and 5.2.4

Draw the *R*-way trie that results when the keys

now is the time for all good people to come to the aid of

are inserted in that order into an initially empty trie (do not draw null links).



now is the time for all good people to come to the aid of

are inserted in that order into an initially empty TST.

