

What are the internal nodes of the suffix tree?
(the algorithm is given below)

```
S = empty stack
S.push([1...n+1], [1...n+1], 0)
while S is not empty do
  ([i,j],[i',j'],d) = S.pop()
  output ([i,j],d)
   $\Sigma'$  = idx.enumerateLeft(i,j)
  I =  $\emptyset$ 
  for c  $\in$   $\Sigma'$  do
    I = I  $\cup$  {idx.exgndLeft(c,[i,j],[i',j'])}
  for ([i,j],[i',j'])  $\in$  I do
    if idx.isRightMaximal(i',j') then
      S.push([i,j],[i',j'],d+1)
```

BWT_T

i
p
s
s
m
\$
p
i
s
s
i
i

Construct the Burrows-Wheeler Transform of ATATAGCGCGCT.

Count the number of occurrences of GCG in ATATAGCGCGCT

```
i = m
(sp, ep) = (1, n)
while sp ≤ ep and i ≥ 1 do
    c = pj
    sp = C[c] + rankc(L, sp - 1) + 1
    ep = C[c] + rankc(L, ep)
    i = i - 1
if ep < sp then
    return 0
else
    return ep - sp + 1
```

Give the wavelet tree representation of the following BWT.

1	A
2	T
3	\$
4	T
5	G
6	A
7	A
8	C