Exercise 2 (Due by May 9)

1. Consider the following LTAG:

```
S'       S
   WH       S
      NP    VP
        V    NP
          loves  
                 
               NP
          who
               
       S
      NP    VP
        V    S
          claim
                   
               NP
           did
               
            S

(a) Give the derived tree and the derivation tree for

   (1) Who did John claim Mary loves

(b) Find two more strings which can be derived with the above grammar and give the corresponding derivation trees.

2. Give a FTAG for the copy language \( \{ww \mid w \in \{a, b\}^*\} \), for which we have seen the TAG with adjunction constraints in the course.

```

```
S
   e
  a
  b
    
    
    S
      NA
         a
            
            S
              NA
                 
                 S
                   NA
                      b

```