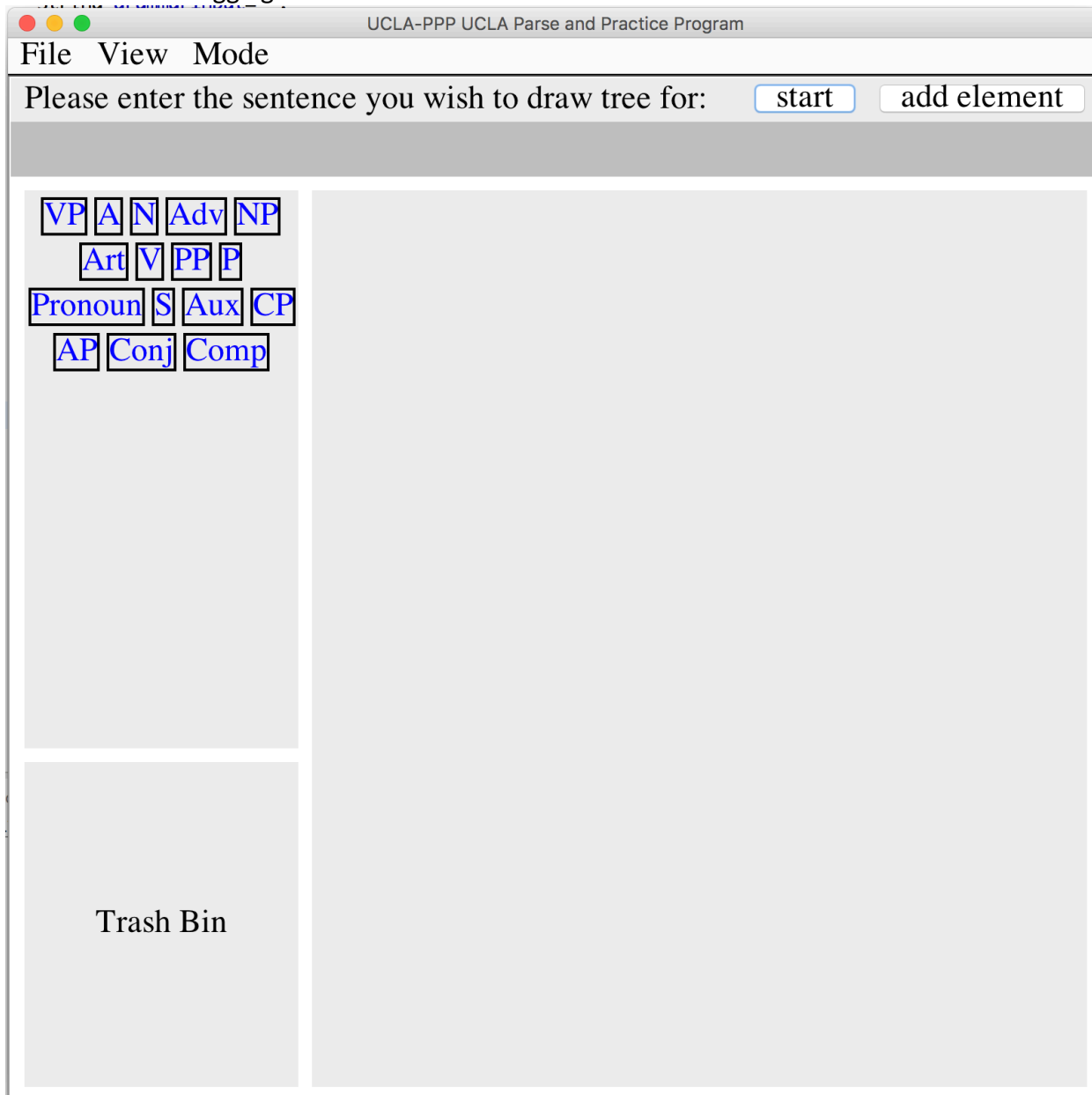


1. Now the program has two modes.

a. User can switch the two modes via the menu bar Mode-> Tree Drawing → pick one



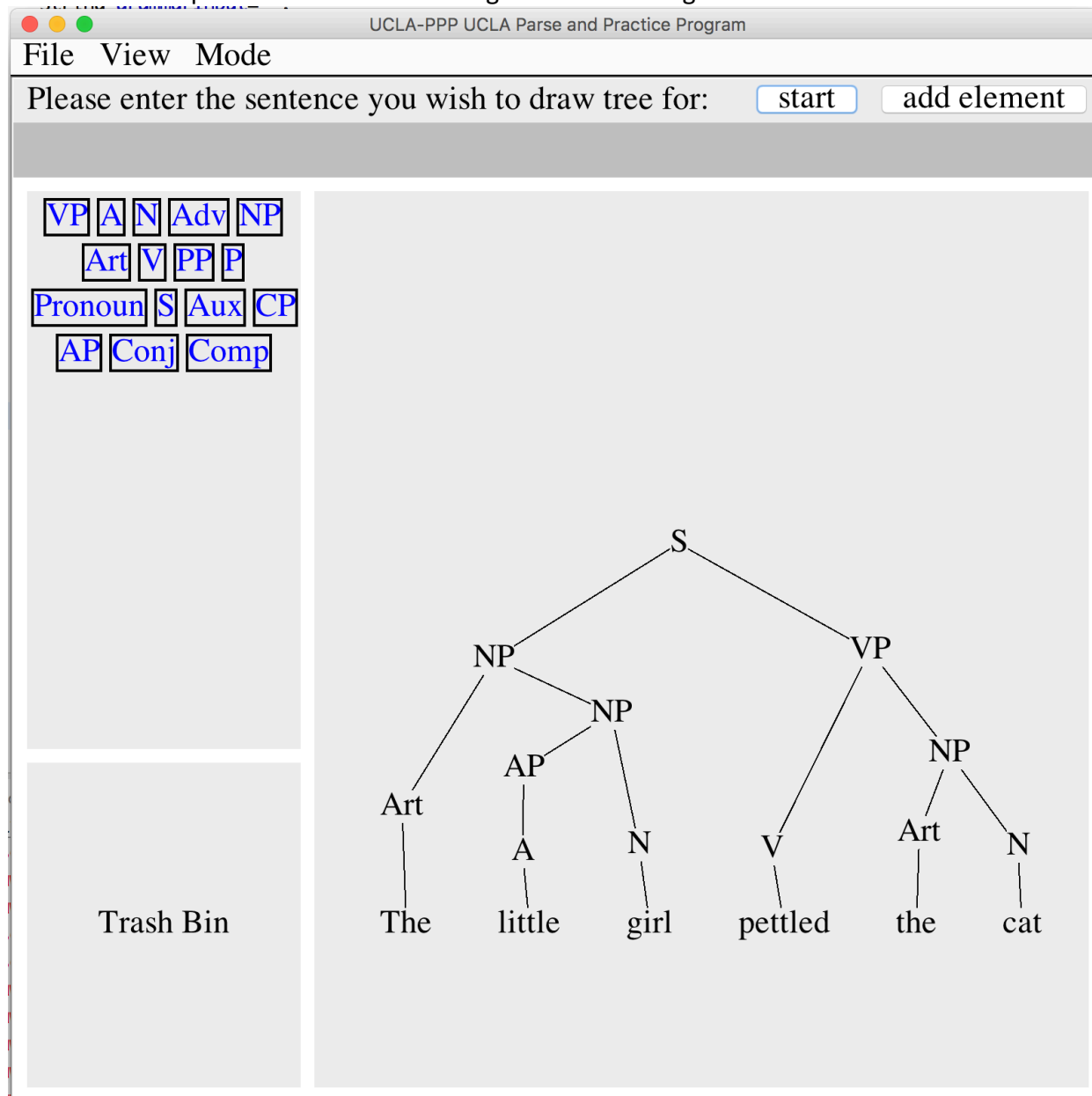
b. The default mode “Free Drawing”: draw tree in free style by adding sentence elements and dragging nodes.



- Every time new grammar is successfully imported, the nodes on the left edge will be updated accordingly.

- User can add the sentence they want to build tree for to the drawing board by typing in the sentence and press “start”: the drawing board will be cleared, the words in the sentence will be added to the screen and they are all movable by dragging.
- User can add elements to the drawing board by type in elements and press “add element” : the drawing board will not be cleaned and the elements typed in will be added additionally.
- After having the nodes and words in the drawing board, the user can connect two nodes by clicking two nodes: the first node clicked will be marked as red to remind the user which node he/she has already clicked. The user can remove the line by clicking two nodes already connected.
- The user can remove a node and the line which the node is connected to by dragging the node into the “trash bin” area.
- All nodes and words in the drawing board is movable and the lines will change position simultaneously when the nodes change position.

Here is an example of the tree I drew using the free drawing mode:



example of lines removed:

UCLA-PPP UCLA Parse and Practice Program

File View Mode

Please enter the sentence you wish to draw tree for:

VP AN Adv NP

Art V PP P

Pronoun S Aux CP

AP Conj Comp

Trash Bin

S

NP

VP

NP

VP

NP

NP

Art

AP

V

Art

N

The

little

girl

pettled

the

cat

example of elements added:

UCLA-PPP UCLA Parse and Practice Program

File View Mode

Please enter the sentence you wish to draw tree for:

VP A N Adv NP

Art V PP P

Pronoun S Aux CP

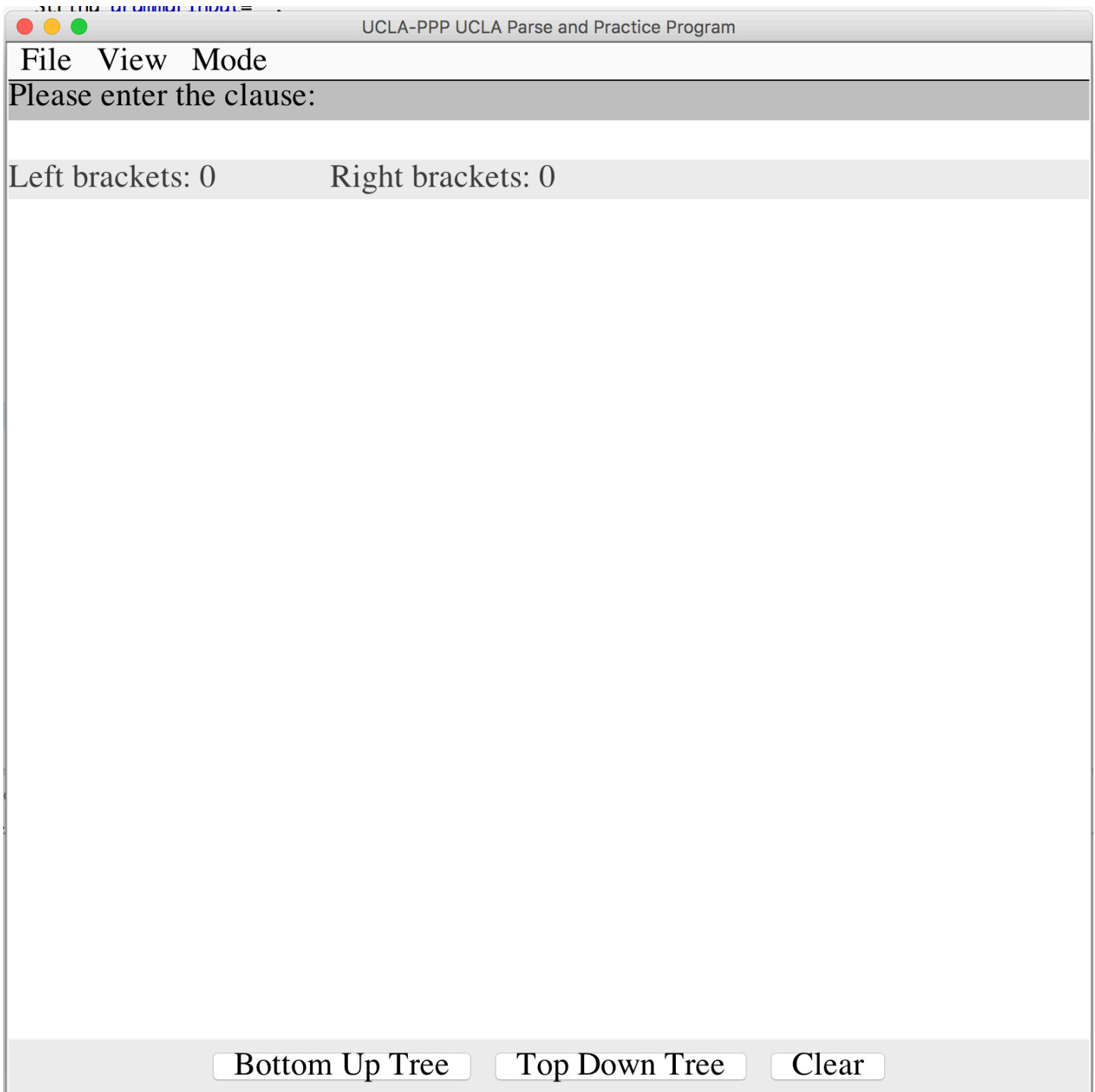
AP Conj Comp

Trash Bin

element added

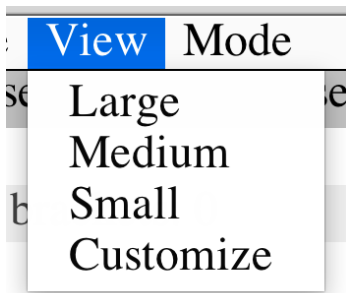
```
graph TD; S --> NP1[NP]; S --> VP[VP]; NP1 --> Art1[Art]; NP1 --> NP2[NP]; Art1 --> The[The]; NP2 --> AP[AP]; NP2 --> N1[N]; AP --> A[A]; A --> little[little]; N1 --> girl[girl]; VP --> V[V]; VP --> NP3[NP]; V --> pettled[pettled]; NP3 --> Art2[Art]; NP3 --> N2[N]; Art2 --> the[the]; N2 --> cat[cat]
```

- c. The second mode "Clause Entering": draw tree by entering the clause.
 - i. Update1: the layout in this mode is updated so that each bar's height does not influence each other as before.
 - ii. Update2: the + - buttons are removed and replaced by the items in the menu bar, which will be explained later.

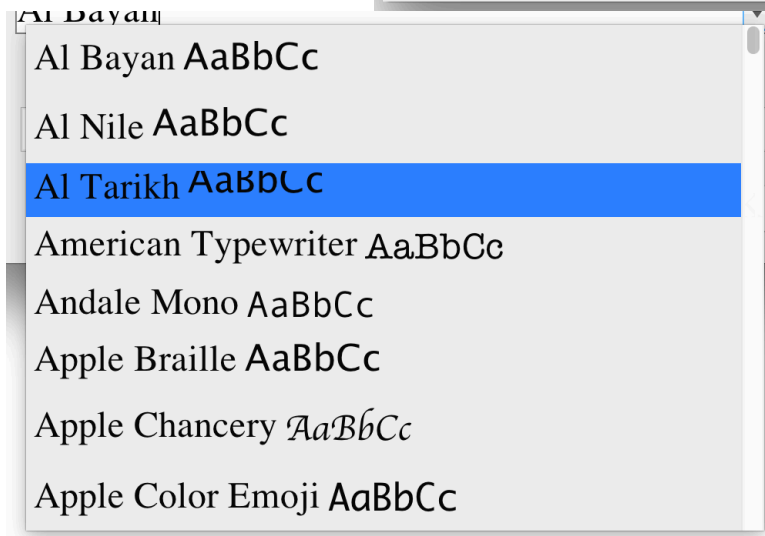


2. Now the user has more choices of the font of the whole program. The “view” menu takes care of this.

- Medium is the default font, which is Serif 24,



- Large is Serif 28
- Small is Serif 20
- Customize let the user choose the font family and size of the font



3. Updates on importing grammar:

- Now the import grammar file supports all \rightarrow , \Rightarrow , $:$ as indicator of rules.
- Tonight I should finish letting the program recognize $\{ \}$ as an indication of option.