

Quiz 3

CSCI 334: Spring 2024

Your name: _____ instructor solution _____

Draw the derivation tree for the following string using the grammar below.

The time has come to talk of many things. Of shoes and ships and sealing-wax. Of cabbages and kings.

```
<a> ::= The time has come <b>. <c>. <e>.
<b> ::= to talk of many things
      | to speak of nautical things
      | to discuss pressing matters
<c> ::= Of <d>
<d> ::= <g> and <g> and <g>
<e> ::= Of <f>
<f> ::= <g> and <g>
<g> ::= secrets | stars | cabbages | snails | kings
      | mysteries | shoes | ships | wizard maps | sealing-wax
      | clocks | baseball batters | wings | fears
      | starlight scatters
```

Solution:

