Principles of Compiler Design

Assignment

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1] Production rule: $S \to SaA | A$, $A \to AbB | B$, $B \to cSd | e$

Input String: ceaedbe

$S \to SaA | A$
$A \to AbB | B$
$B \to cSd | e$

$S \to A$
$\to AbB$
$\to BbB$
$\to BbB$
$\to cSdbB$
$\to cSaAdbB$
$\to cAaAdbB$
$\to cBaAdbB$
$\to ceaAdbB$
$\to ceaBdbB$
$\to ceaedbB$
$\to ceaedbe$

Syntax tree
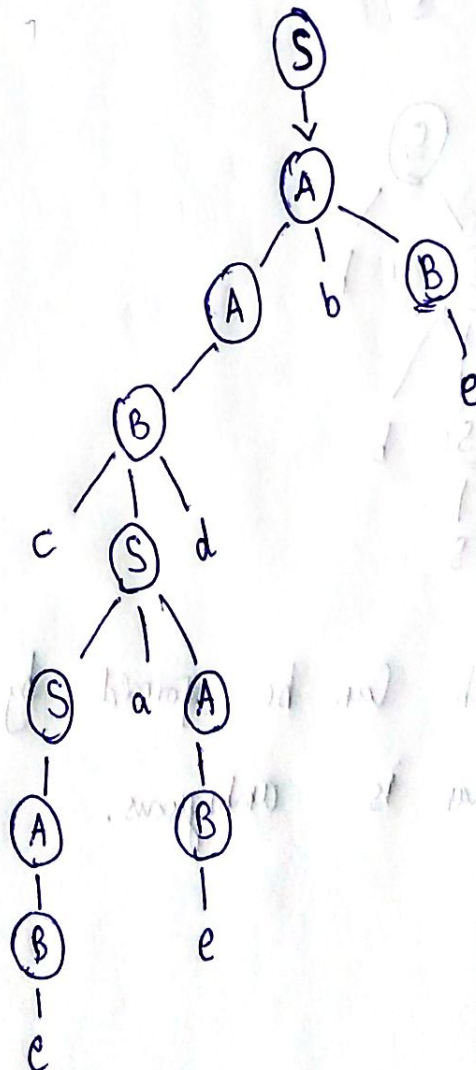
2] S → aSb
S → Sb
S → s

Let us take the input String

    asbb

1]

```
            (S)
          /  |  \
         a  (S)  b
            /  \
          (S)   b
           |
           s
```

2]

```
            (S)
          /   \
        (S)    b
       / | \
      a (S) b
         |
         s
```
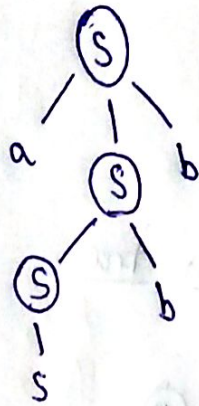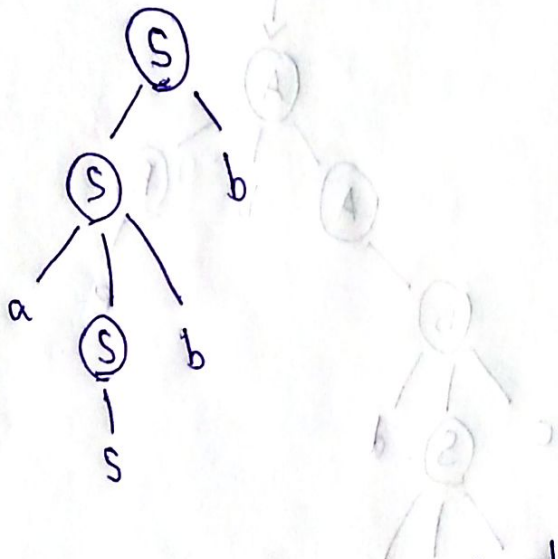
Since asbb can be formed by two parse tree. The Given grammar is ambiguous.