

Quiz 3 from Spring 2021 solutions:

Q1.

$S \rightarrow aSa \rightarrow aMa \rightarrow aTa \rightarrow aa$

$S \rightarrow M \rightarrow aM \rightarrow aT \rightarrow aTa \rightarrow aa$

Q2.1.

Expr is left recursive

Q2.2.

$\text{Expr} \rightarrow \text{Bool LogicalOp Expr} \mid \text{Bool}$

$\text{LogicalOp} \rightarrow \text{and} \mid \text{or}$

$\text{Bool} \rightarrow \text{true} \mid \text{false}$

Q3.

a^*

Q4.

$S \rightarrow AB$

$A \rightarrow Aa \mid a$

$B \rightarrow b \mid \epsilon$

Q5.

$S \rightarrow AB$

$A \rightarrow aAbb \mid \epsilon$

$B \rightarrow bBc \mid \epsilon$

Q6.

A: parse_T toks

B: parse_S toks

C: match_tok (parse_M (match_tok toks "d")) "k"