

*3. Use CYK algorithm to find whether **abab** $\in L(G)$.

(Homework 7)

$$G: S \rightarrow AB$$

$$A \rightarrow BB$$

$$A \rightarrow a$$

$$B \rightarrow AB$$

$$B \rightarrow b$$

$$\begin{array}{cccc}
 a & b & a & b \\
 \hline
 A & B & A & B \\
 \\
 ab & ab & ba & \\
 \hline
 S, B & & S, B & \\
 \\
 aba & bab & & \\
 \hline
 & A & & \\
 \\
 abab & & & \\
 \hline
 A & & &
 \end{array}$$

Ans. **abab** $\notin L(G)$