Walk through the steps of the CYK algorithm by filling in the array shown, using the context-free grammar given below, to determine whether the string *abaababababaaba* is generated by that grammar.

1. $S \rightarrow AC$

2. $S \rightarrow BD$

3. $C \rightarrow SA$

4. $D \rightarrow SB$

5. $S \rightarrow AA$

6. $S \rightarrow BB$

7. $S \rightarrow a$

8. $A \rightarrow a$

9. $S \rightarrow b$

10. $B \rightarrow b$

a	b	a	a	b	a	b	a	b	a	a	b	a