

- ① $S \rightarrow NP VP$
- ② $NP \rightarrow the NP1 \mid NP1 \mid NP2$
- ③ $NP1 \rightarrow ADJ NP1 \mid N$
- ④ $NP2 \rightarrow NP1 PP$
- ⑤ $ADJ \rightarrow big \mid small$
- ⑥ $N \rightarrow boy \mid ball \mid bat \mid autograph$
- ⑦ $VP \rightarrow V \mid V NP$
- ⑧ $VP \rightarrow VP PP$
- ⑨ $V \rightarrow hits$
- ⑩ $PP \rightarrow with NP$

