For the given Context free grammar, write a recursive descent parser using any high level languages to generate the production rules used to derive the valid and invalid strings.
 CFG production rules:

$$S \rightarrow \mathbf{L} = \mathbf{E}$$
$$E \rightarrow \mathbf{L} \mid \mathbf{E \& E}$$
$$L \rightarrow I \,] \mid \mathbf{i}$$
$$I \rightarrow I , E \mid \mathbf{i} \mid [\, E$$

Test case: 1. **[i] = [i]**