1. Set $S_L$ of languages $L$ such that $S_L = \{L(M) : (M) \in L\}$.

2. Set $S_L = \{L(M) : (M) \in S\}$,

3. Show that for every language $L$, \( S_L \subseteq RE \).

4. Prove that if $L$ is a language and $S_L = f\langle M \rangle$, $L$ is regular.

5. Prove that if $L$ is a language and $S_L = f\langle M \rangle$, $L$ is context-free.