$$L(M_0) = \{ a^n b^n c^n \mid n > 0 \} \text{ (a context-sensitive language)} \cup \{ \lambda \}.$$

Since every finite state machine can be modeled by a Petri net, every regular language is a Petri net language. It has been shown that all Petri net languages are context-sensitive languages [10].

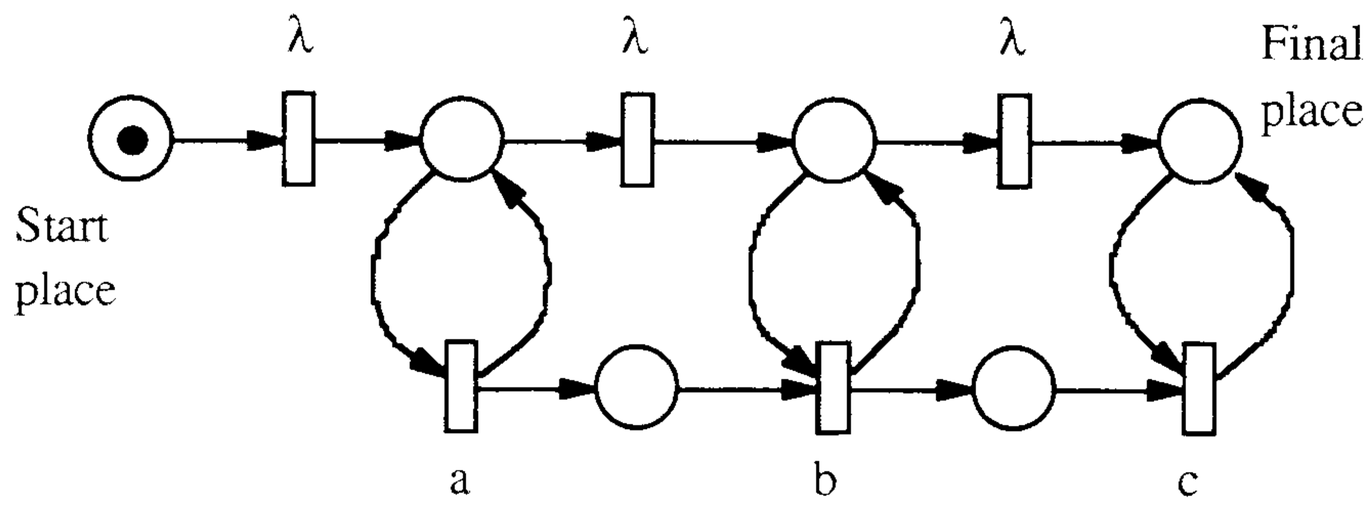

Fig.2.12. This labeled Petri net generates a language $L(M_0) = \{a^n\ b^n\ c^n \mid n \geq 0\ \}$.

2.8 Multiprocessor Systems

The Petri net shown in Fig. 2.13 is a model for a multiprocessor system with five processors, three common memories and two buses [30, 31]. Place p_1 contains tokens representing processors executing in their private memory, and p_3 contains tokens representing free buses. Transition t_1 represents the issuing of access requests, and p_3 contains requests that have not yet been served. Tokens in p_4 represent processors having access to common memories. Tokens in p_5 represent processors requesting the same common memory that has been accessed by a token (processor) in p_4. Firing t_5 represents the end of the access to the memory for which processors in p_5 are queued. Firing t_4 represents the end of the access to a memory for which there is no outstanding request. This means that there is an additional enabling condition for t_4. That is, if there is one or more tokens (outstanding requests) in p_5, there must be at least two tokens in p_4 for t_4 to be enabled. This additional condition is not modeled in the net shown. The two transitions