

获得的答案

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Given language is

$$A = \{a^i b^j c^k \mid i = j \text{ or } j = k \text{ where } i, j, k \geq 0\}$$

The language is union of two languages $\{a^i b^j c^k \mid i, k \geq 0\}$ and $\{a^i b^k c^k \mid i, k \geq 0\}$.

Let $A_1 = \{a^i b^j c^k \mid i, k \geq 0\}$ and $A_2 = \{a^i b^k c^k \mid i, k \geq 0\}$.

The informal description of the PDA that recognizes the language A_1 .

In more detail, it operates as follows:

- Read and push a 's.
- Read b 's, while popping a 's.
- If b 's finish when stack is empty, skip c 's on input and accept.

The informal description of the PDA that recognizes the language A_2 .

In more detail, it operates as follows:

- Skip a 's on input.
- Read and push b 's.
- Read c 's, while popping b 's.
- If c 's finish when stack is empty, accept.

The informal description of the PDA that recognizes the language A is the combination of both the languages A_1 and A_2 .

In more detail, it operates as follows:

1. Nondeterministically branch to either step 2 or step 6.
2. Read and push a 's.
3. Read b 's, while popping a 's.
4. If b 's finish when stack is empty, skip c 's on input and accept.
5. Skip a 's on input.
6. Read and push b 's.
7. Read c 's, while popping b 's.
8. If c 's finish when stack is empty, accept.