- 1. Write a program to implement a PDA that accepts equal number of 0's and 1's where  $n \ge 1$  by final state.
- 2. Write a program to implement a PDA that accepts equal number of 0's and 1's where  $n \ge 1$  by empty stack.
- 3. Write a program to implement a PDA that accepts  $0^n1^n$ , where  $n \ge 1$  by final state.
- 4. Write a program to implement a PDA that accepts  $\mathbf{wcw}^r$  where  $\mathbf{w} \in \{a,b\}$  by final state.
- 5. Write a program to implement a PDA that accepts  $\mathbf{a}^{\mathbf{n}}\mathbf{b}^{\mathbf{m}}\mathbf{c}^{\mathbf{n}}$  where n,m>=1.