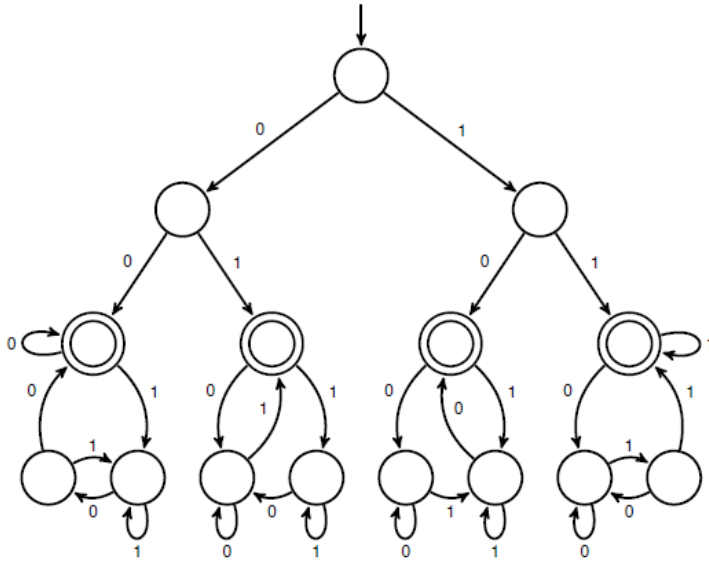


CSE205 Midterm Homework

Due Date 14/5/2020

Q1

What is the language recognized by the following DFA?



Q2

Give a CFG that generates the language $L1 = \{a^n b^{n+2} | n \geq 0\}$ over $\Sigma = \{a, b\}$.

Q3

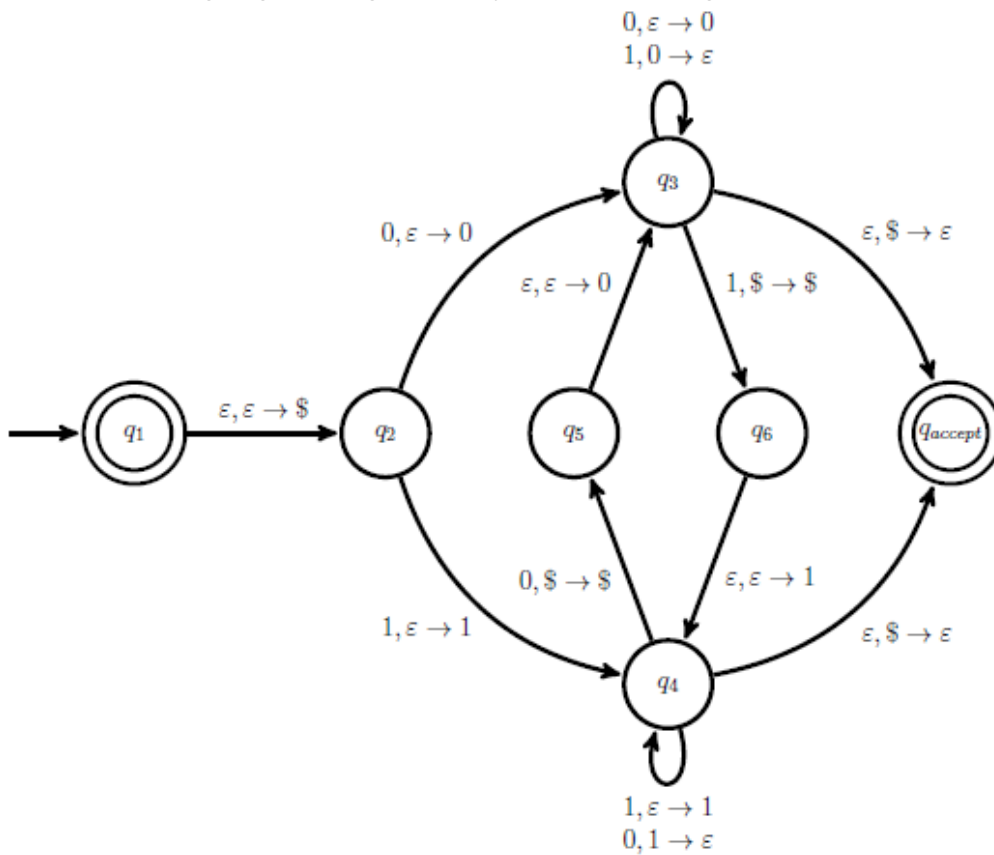
Give a CFG that generates the language $L2 = \{a^n b^m | m > n\}$ over $\Sigma = \{a, b\}$.

Q4

Give a PDA that generates the language $L = \{a^n b^m c^m b^n | n, m \geq 0\}$ over $\Sigma = \{a, b, c\}$.

Q5

What is the language recognized by the following PDA?



Important Notes:

1. You should upload your file to both of Google Classroom system and aduzem.
2. Submission is definitely not allowed after the due date.
3. You **cannot** work in groups. You should work and submit alone.
4. Please do not share your solutions with anyone. Identical solutions will be forwarded to the disciplinary board. Your file will be stored in a digital form on two systems. Therefore, cheating of any type can be discovered easily and there will be no way to defend yourself if you cheat.
5. Your solutions should be clear and easily readable.