CS311 Quiz#4 (winter 99)

Student Name (please print):

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Problem 1. Use set notation to define the language generated by the grammar

$$
\begin{aligned}
S &\rightarrow aSb \mid Ad \\
A &\rightarrow cAd \mid cBb \\
B &\rightarrow aBb \mid a
\end{aligned}
$$

Hint: apply the recursive production rules, succesively, m,n and p times.

$$\{a^n c^m a^p b^p d^m b^n \mid m, p > 0,\ n \geq 0\}$$

Problem 2. Give a regular grammar that generate the set of strings over $\{a, b, c\}$ with each a followed immediately by bc. *Hint: similar to homework problem 28/p84 (25/p50).*

$$
\begin{aligned}
S &\rightarrow bS \mid cS \mid aA \mid \lambda \\
A &\rightarrow bB \\
B &\rightarrow cS
\end{aligned}
$$