Homework 10

Use the pdf problem set posted to the website, as the numbering may differ from that of the text. **Show your work and explain your reasoning.**

Practice (Attempt these before attending recitation)

(1) DMC Problem 24.8
(2) DMC Problem 25.2
(3) DMC Problem 25.22

Recitation Lab (TA works these out in lab)

(1) DMC Problem 24.6 (b), (d)
(2) DMC Problem 24.11 (j), (w), (p)
(3) DMC Problem 24.18
(4) DMC Problem 24.28 (d)
(5) DMC Problem 25.8 (h), (t), (u)
(6) DMC Problem 25.9 (a)
(7) DMC Problem 25.12
(8) DMC Problem 25.21

Problems (Submit solutions: submit DFAs as diagrams)

(1) [**15**] DMC Problem 24.11 (e), (m), (z)
(2) [**10**] DMC Problem 24.22 (e)
(3) [**10**] DMC Problem 24.29 (a)
(4) [**20**] Let $\mathcal{L}$ be the language of all strings of length at most ℓ. What is the smallest number of states in a DFA that solves this problem? Give such a DFA, and prove that any DFA that solves this problem must have at least this many states.
(5) [**15**] DMC Problem 25.8 (g), (m), (r)
(6) [**20**] DMC Problem 25.16 (c), (d)
(7) [**10**] DMC Problem 25.18 (a)