Review 11

Automata & Theory of Computation

Student ID: **Name:**

1. Answer the following questions.

(1) Draw DFAs L_1 and L_2 for the regular expressions r_1 and r_2, respectvely.

$$r_1 = aa^*, \qquad r_2 = ab^*$$

(2) Construct a DFA for $L_1 \bigcap L_2$.

2. Answer the following questions about

$$L_1 = \{ a^n b^m : n \geq 1 , m \geq 0 \} \cup \{ba\}$$

and

$$L_2 = \{ b^m : m \geq 1 \},$$

(1) Draw a DFA of L_1.

(2) Draw a DFA of L_1/L_2.

(3) Describe L_1/L_2 using a set notation.

$L_1/L_2 = \{$ $\}$

3. Answer the following question about

$$L_1 = L\ (a^*baa^*)$$

and

$$L_2 = L\ (ab^*).$$

(1) Draw a DFA of L_1.

(2) Draw a DFA of L_1/L_2.

(3) Describe L_1/L_2 using a set notation.

$L_1/L_2 = \{$ $\}$