

BİCİNSEL DİLLER VE OTOMATA ÖDEV 1

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Problem 1.1.1

- (a) true $\rightarrow \emptyset \subseteq \emptyset$
- (b) false $\rightarrow \emptyset \in \emptyset$
- (c) true $\rightarrow \emptyset \in \{\emptyset\}$
- (d) true $\rightarrow \emptyset \subseteq \{\emptyset\}$
- (e) true $\rightarrow \{a, b\} \in \{a, b, c, \{a, b\}\}$
- (f) true $\rightarrow \{a, b\} \subseteq \{a, b, \{a, b\}\}$
- (g) false $\rightarrow \{a, b\} \subseteq_2 \{a, b, \{a, b\}\}$
- (h) true $\rightarrow \{\{a, b\}\} \in_2 \{a, b, \{a, b\}\}$
- (i) false $\rightarrow \{a, b\} \setminus \{a, b\} = \{a, b\}$

Problem 1.1.2

- (a) $\{3, 5\}$
- (b) $\{3, 5, 7\}$
- (c) $\{1, 2, 7, 9\}$
- (d) $\{ \{8\}, \{7, 8\}, \{8, 9\}, \{7, 8, 9\} \}$
- (e) $\{ \{4\} \}$

Problem 1.1.4

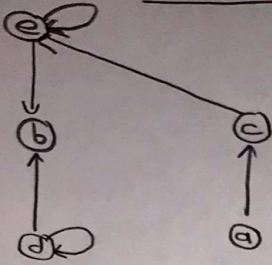
- (a) En az üye sahip $\rightarrow \{ \{a, b, c, d\} \}$
En çok üye sahip $\rightarrow \{ \{a\}, \{b\}, \{c\}, \{d\} \}$

- (b) Aşağıdaki bölümlerin iki üyesi var

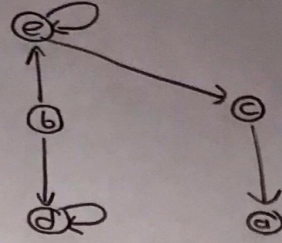
$\{\emptyset, \{a, b, c, d\}\}$	$\{\{a\}, \{b, c, d\}\}$
$\{\{b\}, \{a, c, d\}\}$	$\{\{c\}, \{a, b, d\}\}$
$\{\{d\}, \{a, b, c\}\}$	$\{\{a, b\}, \{c, d\}\}$
$\{\{a, c\}, \{b, d\}\}$	$\{\{a, d\}, \{b, c\}\}$

Problem 1.3.1

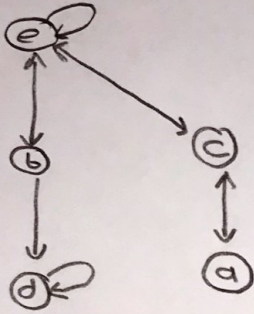
(a)



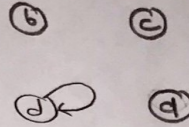
(b)



(c)



(d)



Problem 1.3.2

- (a) R dñüplü, simetrik ve geçişli deęil. \Rightarrow simetrik ama dñüplü ve geçişli deęil
- (b) R U S dñüplü ama ne simetrik ne de geçişli.

Problem 1.3.4

- (a) R dñüplü deęil. !!
- (b) R simetrik $(a,b) \in R \rightarrow (b,a) \in R$
- (c) R antisimetrik $(a,b) \in R \rightarrow (b,a) \notin R$
- (d) R geçişli $(a,b) \in R$ ve $(b,c) \in R \rightarrow (a,c) \in R$

Problem 1.3.7

- $R_1 \cap R_2$ dñüplü $(a,a) \in R_1$ ve $(a,a) \in R_2 \rightarrow (a,a) \in R_1 \cap R_2$
- $R_1 \cap R_2$ antisimetrik $(b,a) \notin R_1$ ve $(b,a) \notin R_2 \rightarrow (b,a) \notin R_1 \cap R_2$
- $R_1 \cap R_2$ geçişli $(a,c) \in R_1$ ve $(a,c) \in R_2 \rightarrow (a,c) \in R_1 \cap R_2$

Problem 1.3.9

Yñlendirilmiř bir grafik, her dñğñmden çıkan tom olarak bir ok iřareti olduęunda bir iřlevi temsil eder