

ITEM		Value (shaded boxes left blank)	
		0..4	{✓, X, ?}
A	: (S,T)		
S	: (Prob, {yes,no,?}, b <sub>1</sub> , ... b <sub>n</sub> ), n>=0		
Prob	:		
	=		
Altern	: Prob+		
	=		
T	: SxS		
	= {(s1:S,s2:S)   Erw(s1,s2)}		
Erw	Erw((pr,?), (pr,yes)), if pr is solved		
	Erw((pr,?), (pr,no)), if pr is unsolvable		
	Erw((pr,?), (pr,?(pr1,...,prn))), if Altern(pr,pr1,...,prn) holds		
	Erw((pr,?,b1,...,bn),(pr,?,b1',...,bn')), if for an i: Erw(bi,bi') and bj = bj' for i≠j		
solved	=		
unsolvable	=		
P	: (A, Env, K)		
Env	=		
K	: S x Env → S		
	= K(s,e) = s' if (s,s') ∈ T		
f <sub>leaf</sub>	: S x Env → Nat		
	=		
f <sub>trans</sub>	: S x Env → S		
	=		
Ins	: (s0, G)		
s0	=		
G	: S -> {yes,no}		
	= G(s) = yes, iff s = (pr',yes) ∨ s = (pr',?,b1,...,bn), G∨(bi) = yes for an i ∨ All leafs of s have either the sol-entry no or cannot be processed using Altern		
Tree structure conforms to specification			
Tree is correct representation of the specific problem			
Tree is complete (or reasonably so)			
		There is specifically no totals of these columns.	

The following questions are **informed** (not *dictated*) by the table above. These answers dictate the mark, not the table above.

The student understands the paradigm:

The specific problem was solved:

no	unsatisfactory	uncertain	probably	definitely
unsatisfactorily	poorly	reasonably	correctly	brilliantly

Minimum requirement for a "C"

#### Notes:

Column "0..4"

0 = not done, left out, or dead wrong

1 = as prose, not well described, or a bad idea

2 = as prose, nominally correct

3 = includes logic statement, some errors or misunderstandings

4 = brilliant

There MUST be some ≥2's in this column in order to get a "C"

Column "{✓, X, ?}"

Expectations are that all or at least most of these are ✓

A "C" minimum on all problems in the exam is required to get a "C" on the exam as the exam as a whole.

ITEM		Value (shaded boxes left blank)	
		0..4	{✓,X,?}
A	: (S,T)		
S	: (Prob, {yes,?}, b <sub>1</sub> , ... b <sub>n</sub> ), n>=0		
Prob	:		
	=		
Div	: Prob+		
	=		
T	: SxS		
	= {(s1:S,s2:S)   Erw(s1,s2) ∨ Erw*(s2,s1)}		
Erw	Erw((pr,?), (pr,yes)), if pr is solved		
	Erw((pr,?), (pr,?(pr1,...,prn))), if Div(pr,pr1,...,prn) holds		
	Erw((pr,?,b1,...,bn),(pr,?,b1',...,bn')), if for an i: Erw(bi,bi') and bj = bj' for i≠j		
	Erw <sub>∧</sub> ⊆ Erw* and Erw*((pr,?,b1,...,bn),(pr,?,b1',...,bn')), if for all i either Erw*(bi,bi') or bi = bi' holds		
solved	=		
P	: (A, Env, K)		
Env	=		
K	: S x Env → S		
	= K(s,e) = s' if (s,s') ∈ T		
f <sub>leaf</sub>	: S x Env → Nat		
	=		
f <sub>trans</sub>	: S x Env → S		
	=		
Ins	: (s0, G)		
s0	=		
G	: S → {yes,no}		
	= G(s) = yes, iff s = (pr',yes) ∨ s = (pr',?,b1,...,bn), G(b1) = ... = G(bn) = yes and the solutions to b1,...,bn are compatible with each other or there is no transition that has not been tried out already		
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ITEM		Value (shaded boxes left blank)	
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A	: (S,T)		
S	: $2^F$		
F	: set of facts		
fact	:		
Ext	: $\{A \rightarrow B \mid A, B \subseteq F\}$ : set of extension rules		
	= (list one or more ext operators here)		
T	: $S \times S$		
	= $\{(s,s') \mid \exists A \rightarrow B \in \text{Ext} \cdot A \subseteq s \wedge s' = (s-A) \cup B\}$		
P	: (A, Env, K)		
Env	=		
K	: $S \times \text{Env} \rightarrow S$		
	= $K(s,e) = (s-A) \cup B$ where $A \rightarrow B \in \text{Ext} \wedge A \subseteq s \wedge \forall A' \rightarrow B' \in \text{Ext} \mid A' \subseteq s \cdot f_{\text{Wert}}(A,B,e) \leq f_{\text{Wert}}(A',B',e) \wedge A \rightarrow B = f_{\text{select}}(\{A' \rightarrow B' \mid \forall A'' \rightarrow B'' \in \text{Ext} \mid A'' \subseteq s \cdot f_{\text{Wert}}(A',B',e) \leq f_{\text{Wert}}(A'',B'',e)\}, e)$		
$f_{\text{Wert}}$	: $2^F \times 2^F \times \text{Env} \rightarrow \text{Nat}$		
	=		
$f_{\text{select}}$	: $2^{2^F \times 2^F} \times \text{Env} \rightarrow 2^F \times 2^F$		
	=		
Ins	: (s0, G)		
s0	= (type is $2^F$ )		
G	: $S \rightarrow \{\text{yes}, \text{no}\}$		
	= $G(s) = \text{yes}$ , iff $s_{\text{goal}} \subseteq s \vee$ there is no extension rule applicable in s		
$s_{\text{goal}}$	= (type is $2^F$ )		
Diagram conforms to specification			
Diagram is correct representation of the specific problem			
Diagram is complete (or reasonably so)			
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There MUST be some  $\geq 2$ 's in this column in order to get a "C"

Column "{✓, X, ?}"

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