

Answer All Questions

Question 1:

a) Using a truth table, show that the sentence $((P \wedge Q) \rightarrow R) \equiv (\neg P \vee \neg Q \vee R)$ is true.

b) A new operator, \oplus may be defined by the following truth table:

Create a propositional calculus expression using only \wedge , \vee , and \neg that is equivalent to $P \oplus Q$. Prove their equivalence using truth tables.

P	Q	$P \oplus Q$
T	T	F
T	F	T
F	T	T
F	F	F

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Question 2:

a) Compare between the Knowledge acquisition and Knowledge elicitation.

b) List some of difficulties in knowledge elicitation.

c) Explain the Spiral Model For Expert System Development.

d) Build a finite state acceptor that recognizes the following strings of binary digits:

I. That contain "011".

II. That end in "011".

III. That contain "011" but not contain more than two consecutive "1"s.

IV. That end in "111".

V. That contain "111" but not more than three consecutive "1"s.

Good Luck