1.	$(A \vee B) \supset (C \bullet D)$	
2.	$C \supset \sim D$	/ $\sim A$
3.	A	AIP
4.	$A \vee B$	3, Add
5.	$C \bullet D$	1, 4, MP
6.	C	5, Simp
7.	$\sim D$	2, 6, MP
8.	$D \bullet C$	5, Com
9.	D	8, Simp
10.	$D \bullet \sim D$	7, 9, Conj } changed
11.	$\sim A$	3–10, IP }

The reminder at the end of the previous section regarding conditional proof pertains to indirect proof as well: It is essential that every indirect proof be discharged. No proof can be ended on an indented line. If this rule is ignored, indirect proof, like conditional proof, can produce any conclusion whatsoever. The following invalid proof illustrates such a mistake:

1.	P	/ Q
2.	Q	AIP
3.	$Q \vee Q$	2, Add
4.	Q	3, Taut

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EXERCISE 7.6

I. Use either indirect proof or conditional proof (or both) and the eighteen rules of inference to derive the conclusions of the following symbolized arguments. Having done so, attempt to derive the conclusions without using indirect proof or conditional proof.

★(1) 1. $(S \vee T) \supset \sim S$ / $\sim S$

(2) 1. $(K \supset K) \supset R$
2. $(R \vee M) \supset N$ / N

(3) 1. $(C \bullet D) \supset E$
2. $(D \bullet E) \supset F$ / $(C \bullet D) \supset F$

★(4) 1. $H \supset (L \supset K)$
2. $L \supset (K \supset \sim L)$ / $\sim H \vee \sim L$

(5) 1. $S \supset (T \vee \sim U)$
2. $U \supset (\sim T \vee R)$
3. $(S \bullet U) \supset \sim R$ / $\sim S \vee \sim U$

(6) 1. $\sim A \supset (B \bullet C)$
2. $D \supset \sim C$ / $D \supset A$

★(7) 1. $(E \vee F) \supset (C \bullet D)$
2. $(D \vee G) \supset H$
3. $E \vee G$ / H

(8) 1. $\sim M \supset (N \bullet O)$
2. $N \supset P$
3. $O \supset \sim P$ / M

(9) 1. $(R \vee S) \supset T$
2. $(P \vee Q) \supset T$
3. $R \vee P$ / T

★(10) 1. K / $S \supset (T \supset S)$

(11) 1. $(A \vee B) \supset C$
2. $(\sim A \vee D) \supset E$ / $C \vee E$

(12) 1. $(K \vee L) \supset (M \bullet N)$
2. $(N \vee O) \supset (P \bullet \sim K)$ / $\sim K$

★(13) 1. $[C \supset (D \supset C)] \supset E$ / E

(14) 1. F / $(G \supset H) \vee (\sim G \supset J)$

(15) 1. $B \supset (K \bullet M)$
2. $(B \bullet M) \supset (P \equiv \sim P)$ / $\sim B$

★(16) 1. $(N \vee O) \supset (C \bullet D)$
2. $(D \vee K) \supset (P \vee \sim C)$
3. $(P \vee G) \supset \sim (N \bullet D)$ / $\sim N$

(17) 1. $(R \bullet S) \equiv (G \bullet H)$
2. $R \supset S$
3. $H \supset G$ / $R \equiv H$

(18) 1. $K \supset [(M \vee N) \supset (P \bullet Q)]$
2. $L \supset [(Q \vee R) \supset (S \bullet \sim N)]$ / $(K \bullet L) \supset \sim N$

★(19) 1. $A \supset [(N \vee \sim N) \supset (S \vee T)]$
2. $T \supset \sim (F \vee \sim F)$ / $A \supset S$

(20) 1. $F \supset [(C \supset C) \supset G]$
2. $G \supset \{[H \supset (E \supset H)] \supset (K \bullet \sim K)\}$ / $\sim F$

II. Translate the following arguments into symbolic form, using the letters in the order in which they are listed. Then use indirect proof and the eighteen rules of inference to derive the conclusion of each. Having done so, attempt to derive the conclusion without using indirect proof.

★**1.** If government deficits continue at their present rate and a recession sets in, then interest on the national debt will become unbearable and the government will default on its loans. If a recession sets in, then the government will not default on its loans. Therefore, either government deficits will not continue at their present rate or a recession will not set in. (*C*, *R*, *I*, *D*)