

## Assignment #2 – Due Friday 9/9

1. Translate the following statements from English to propositional logic.

$P$ =The project is finished soon     $L$ =The lights go out  
 $B$ =The bills are paid                       $C$ =The client is happy

- (a) If the project is finished soon, then the client will be happy and bills will be paid.
- (b) The project will be finished soon only if the lights do not go out.
- (c) The lights will go out if the project is not finished soon.
- (d) The bills will be paid and the client will be happy if and only if the project is finished soon.
- (e) The bills will be paid and the lights will not go out unless the client is unhappy.
- (f) Having the lights on and finishing the project soon is sufficient for bills to be paid.

2. Write the negation of each statement in proper English.

- (a) If the carton is not sealed, then the milk will spoil.
- (b) If the carton is sealed and the refrigerator is working, then the milk will not spoil.
- (c) Good weather is necessary for flowers to bloom.
- (d) Flowers bloom if and only if the weather is good.