

**Algorithm Design**  
***M. T. Goodrich and R. Tamassia***  
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**Solution of Exercise C-13.6**

Number the variables in a satisfiable formula  $B$  as  $x_1, x_2, \dots, x_n$ . Then, for  $i = 1$  to  $n$ , consider a version of  $B$  that is the formula derived from setting  $x_i = 1$ . If this formula is satisfiable, update  $B$  to now be this formula. Otherwise, set  $B$  to the formula derived from setting  $x_i = 0$ , and repeat. When we will have iteratively transformed  $B$  for each variable, then the remaining formula will just be the constant 1, and the variables assignments will be a satisfying assignment for the original formula  $B$ . Note that this algorithm makes  $n + 1$  calls to the oracle.