

**COP 3502 Suggested Program Edits/Questions: Binary Search Applications/Backtracking**  
**(Week 14 Programs)**

- 1) Rewrite either of the etch solutions using a for loop that runs 60 times instead of the while(high – low > EPSILON) loop.
- 2) Pick one of the functions in the solution to approach.c, erase it, and see if you can rewrite it. Good candidates for this exercise are: getMaxRec, getMaxTime, and works.
- 3) Edit the file eightqueens.c so that instead of printing out all of the solutions, it only prints out the first lexicographical solution. (You can also just print out the perm array instead of printing a two dimensional board.) Change the value of SIZE so that you can get the first lexicographical solution to several different sized boards.
- 4) Edit digitdiv.c so that the definition of digit divisibility is changed. Namely, let's say a number is n digit divisible if every prefix of k digits has its sum of digits (not the overall value) divisible by k.
- 5) Imagine the input to a 9 by 9 sudoku puzzle is letters 'A' through 'I' instead of the digits 1 through 9. Edit sudoku.c so that the input it takes in is board with either '-' for an unfilled square or an uppercase letter 'A' through 'I', and solves the puzzle. (Note: This is less work than it might look like, if you understand the structure of the solution.)