

## **Small Assignment #8**

**Due: Wednesday, 11/20/2024 by 11:59 PM**

**Submission:** Submit this to Gradescope as a single PDF. Assign pages to questions. There are points associated with this for some of the questions below.

### **Question 1. (8 points)**

In class, we went through a solution to the 0-1 Knapsack problem. One of the specifications for this was that each item in the pantry could be in the knapsack 0 or 1 times. Starting with the solution we did in class, rewrite the solution so that the knapsack can take any number of each item from the pantry. In your answer, you should include your code, as well as evidence that you tested it and it works correctly.

### **Question 2. (8 points)**

In class, we went through a solution to the Eight Queens problem. The specification for this includes an 8X8 grid and the placement of 8 queens. Starting with the solution we did in class, rewrite the solution to be for N Queens, where N is a parameter. So if N is 4, then you should find a placement of 4 queens in a 4X4 board. If N is 10, you should find a placement of 10 queens in a 10X10 board. In your answer, you should include your code, as well as evidence that you tested it and it works correctly.