3) (10 pts) ANL (Recurrence Relations)

Use the iteration technique to determine an **<u>exact closed-form solution</u>** for the recurrence relation, T(N), described below. **(Note: Be very careful with what occurs towards the end of the iteration, in the general case.)**

$$T(N) \ = \ (N + 1)T(N - 1) \ \ (\text{for } N > 1)$$
$$T(1) \ = \ 1$$

Computer Science Foundation Exam

May 20, 2023

Section D

ALGORITHMS

**NO books, notes, or calculators may be used,
and you must work entirely on your own.**

Name: _____

UCFID: _____

Question #	Max Pts	Category	Score
1	5	DSN	
2	10	ALG	
3	10	DSN	
TOTAL	25		

You must do all 3 problems in this section of the exam.

Problems will be graded based on the completeness of the solution steps and <u>not</u> graded based on the answer alone. Credit cannot be given unless all work is shown and is readable. Be complete, yet concise, and above all <u>be neat</u>. For each coding question, assume that all of the necessary includes (stdlib, stdio, math, string) for that particular question have been made.