

Dinner Design Plan

Spicer
170D WOBC #22-02

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1 Project Summary

Given a text file with up to 50 line of name / time to eat on each line, create a C program that can calculate what position a waiter should start collecting plates from diners in a clockwise manner to allow the most people to eat.

2 Architecture

2.1 Data

Experiment and find the best way to parse strings efficiently. Need to extract name and time left to store into individual variables.

2.2 Structures

2.2.1 Constants

1. MAX_PEOPLE 50
2. MAX_LINE_LENGTH 100
3. WAITER_TIME 1

2.2.2 struct person_t

1. char name[MAX_LINE_LENGTH]
2. int time_left;

2.3 Significant Functions

1. parse/pack struct with information
2. ensure to loop through every possible position
3. calculate / display most efficient starting position
4. ensure to close file
5. clean all allocated memory

2.4 User Interface

3 Program Flow

1. Make and run program with file name
2. Open / read file provided
3. Allocate memory container for struct pointers and structs
4. parse and pack each struct with proper information
5. begin looping through information to accomplish task
6. Print the starting name and the names of everyone