Pseudocode:

Check that pantry.txt is valid and copy ingredients into memory. (Use Add function to insure that ingredients are sorted as they are read in)

Close file.

Use a menu to determine which function to do next.

### Add ingredient

Create a temp array that is one bigger then old array.

If existing ingredient is before new ingredient, copy address of existing one to temp array.

If existing and new ingredients are the same; exit and return to caller.

If existing is after new, add new to temp array, then copy the rest of existing on after.

Delete existing, then set to point to same memory as temp.

Increase number of ingredients by one.

Exit.

### Remove ingredient

Search for ingredient to find index.

If ingredient found, create temp array one ingredient less.

Copy addresses from existing to temp until you get to the one to remove.

Delete ingredient from memory.

Continue copying addresses till you reach the end.

Delete existing, then set to point to same memory as temp.

Decrease number of ingredients by one.

### Search for ingredient

Divide number of ingredients by 2 and save to “center”. (This will look in center one if odd, low center one if even.)

Compare Center ingredient to desired. (Don’t actually modify pointer to first element though)

If not desired, divide by two again and add to old half if higher, subtract if lower.

Compare new “center” to desired.

Repeat until division would be < 1. If not found at that point, it is not there.

Return index of found ingredient, or -1 if not found.

### Edit ingredient

Search for ingredient.

If found, display ingredient and ask for new name of ingredient.

Create temp and save new name.

Delete old name.

Set index pointer to new name.

Exit.

### Save ingredients to file

Open ‘pantry.txt’.

Overwrite array to file. (How do I newline delineate ingredients?)

Close file.

### Display ingredients

Display each ingredient on a new line.

Exit.

### Check recipe for ingredients

Create an array for the recipe ingredients.

Use Add Ingredient to populate the recipe array.

Sequentially search for each recipe ingredient in order.

If found move to the next one. If not found display name before moving to next one.

### Exit

Save ingredients.

Close program.