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Assignment 2 Decomposition

- Read in user input from keyboard
  - Test by printing it out back to the user
  - Test with readline function from lab 3
  - Test multiline user input
- Check user's yes/no responses
  - Test with "yes" and "Yes"
  - Test with any string that starts with 'y' or 'Y'
- Create format to read and write binary tree to file
  - Test format with integers and create a binary tree from that file
  - Test format with strings and create binary tree from that file
  - Utilize newline escape characters to delimit the nodes and lone newlines to signify null children
- Create tree and node structs
  - Test that binary tree can be created with file
  - Create checks against corrupted files (nodes have one child, lone nodes)
  - Ensure malloc/free are balanced
  - Run valgrind to ensure no memory leaks
- Create tree functions (utilitrees)
  - Test inserting nodes
  - Test inserting a new question node into the tree
  - Serializing/deserializing to a file
  - Freeing the entire tree (probably use recursion for this)
- Create main
  - Handle case with empty file
  - Handle case where the guess is correct
  - Handle case where the guess is incorrect
  - Handle incorrect input file
  - Ensure questions, guesses, and prompts are all printed to the user

Tests for the main program:

- Empty file
- File does not exist
- Corrupted file (nodes have one child)