Program Start

Define function input_something(prompt)

Repeat until valid input is given:

Display prompt to user

Get user input and remove leading/trailing spaces

If input is not empty:

Return input

Else:

Display "Input cannot be blank. Please try again."

Define function input_int(prompt, max_value)

Repeat until valid integer input is given:

Display prompt to user

Get user input

If input is not a number:

Display "Invalid input. Please enter a number."

Else:

Convert input to integer

If integer is within the range 1 to max_value:

Return the integer

Else:

Display "Please enter a number between 1 and max_value."

Define function save_data(data)

Try to open file "data.txt" for writing:

Convert data to JSON format and write it to file

If an error occurs:

Display error message

Define function load_data()

  If file "data.txt" exists:

    Try to open and read file:

      If data is a valid list:

        Return the loaded data

    If an error occurs (e.g., file not found or invalid data):

      Return an empty list

  Else:

    Return an empty list

  Define function main()

    Load data from file using load_data()

    Display welcome message

    Repeat the following loop until user chooses to quit:

      Display menu with options: [a] Add category, [l] List categories, [s] Search categories, [v] View category options, [d] Delete category, [q] Quit program

      Get user choice

      If choice is 'a' (Add category):

        Get a category name

        If category already exists:

          Display "Category already exists"

          Continue

        Get 4 unique options for the category

        Add the new category to data

        Save the updated data

        Display success message

Else if choice is 'l' (List categories):

  If no categories exist:

    Display "No categories available"

  Else:

    Display all categories

Else if choice is 's' (Search categories):

  If no categories exist:

    Display "No categories to search"

  Else:

    Get search term from user

    Find matching categories

    If no matches found:

      Display "No categories found"

    Else:

      Display matching categories

Else if choice is 'v' (View category options):

  If no categories exist:

    Display "No categories to view"

  Else:

    Display list of categories

    Get category number from user

    Display options for selected category

Else if choice is 'd' (Delete category):

  If no categories exist:

    Display "No categories to delete"

  Else:

Display list of categories

Get category number from user

Delete selected category from data

Save the updated data

Display success message

Else if choice is 'q' (Quit program):

Save the data

Display "Goodbye! Data has been saved."

Exit loop

Else:

Display "Invalid choice. Please enter a valid option."

Call main() to start the program

Program End