Pseudocode for admin.py

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MAIN PROGRAM

Try to open data.txt in read mode

    Load JSON data from file into data variable

    Close file

If any exceptions occur

    Set data to empty list

Display line a of equals signs

Display "WELCOME TO ONE MUST GO - ADMIN PROGRAM"

Display "Created by Julian Mendis"

Display line of equals signs

Loop endlessly

    Display blank line

    Display menu prompt - "Choose [a]dd, [l]ist, [s]earch, [v]iew, [d]elete or [q]uit."

    Prompt user to enter their choice

    Convert choice to lowercase and strip whitespace

If the choice is a

    Display "ADD NEW CATEGORY" heading

    Call input_something function with "Enter category name: " prompt

    Store result in category_name variable

Create the list of existing category names in lowercase from the data list

If category_name in lowercase exists in existing names list

Display error message about duplicate category name

Continue to next iteration of main loop

Create an empty options list

Loop while length of options list is less than 5

If length of options list is less than 2

Call input_something function with prompt showing option number

Store result in option_name variable

Otherwise

Prompt user for option name or Enter to finish

Strip whitespace from input

If input is empty and options list has at least 2 items

Break out of options loop

If input is empty and options list has fewer than 2 items

Display error about needing at least 2 options

Continue to next iteration of options loop

Set option_name to the input value

Create list of existing option names in lowercase from the options list

If option_name in lowercase exists in existing options list

Display error message about duplicate option

Continue to next iteration of options loop

Append option_name to options list

If length of options list equals 5

        Display "Maximum of 5 options reached" message

        Break out of options loop

    Create new_category dictionary with two keys

    Set name key to category_name value

    Set options key to list comprehension creating dictionaries for each option

    Each option dictionary has name key set to option and votes key set to 0

    Append new_category dictionary to data list

    Call save_data function passing data as parameter

    Display success message with category name

Otherwise, if the choice is l

    Display "ALL CATEGORIES" heading

    If data list is empty

      Display "No categories saved" message

Otherwise

    Loop through data list using enumerate to get index and category

      Get length of category options list and store in option_count

      Display index plus 1, category name, and option count in parentheses

Otherwise, if the choice is s

    Display "SEARCH CATEGORIES" heading

    If data list is empty

Display "No categories saved" message

Otherwise,

Call input_something function with "Enter search term: " prompt

Convert result to lowercase and store in search_term

Set results_found flag to False

Loop through data list using enumerate to get index and category

If search_term is contained in category name converted to lowercase

Get length of category options list and store in option_count

Display index plus 1, category name, and option count in parentheses

Set results_found flag to True

If the results_found flag is False

Display "No results found" message

Otherwise, if the choice is v

Display "VIEW CATEGORY" heading

If data list is empty

Display "No categories saved" message

Otherwise

Call input_int function with prompt and data list length as max value

Store result in index_num variable

Get category from data list at index of index_num minus 1

Display blank line

Display "Category: " followed by category name

Display "Options" with count in parentheses

Loop through each option in category options list

Display option name and vote count with proper formatting

Otherwise, if the choice is d

Display "DELETE CATEGORY" heading

If data list is empty

Display "No categories saved" message

Otherwise,

Call input_int function with delete prompt and data list length as max value

Store result in index_num variable

Get category name from data list at index of index_num minus 1

Prompt user to confirm deletion with y/n

Convert confirmation to lowercase

If confirmation equals y

Delete item from data list at index of index_num minus 1

Call save_data function passing data as parameter

Display "Category deleted" message

Otherwise,

Display "Deletion cancelled" message

Otherwise, if choice is q

Display blank line

Display thank you message including program name and author name

Display "Goodbye!" message with blank line

Break out of main loop to end program

Otherwise,

    Display "Invalid choice. Please try again." message

Program ends

FUNCTION DEFINITIONS

Function - input_something

Parameters - prompt (the message to display when asking for input)

Returns - String containing validated user input with whitespace removed

Loop endlessly

    Prompt user for input using prompt parameter

    Strip whitespace from beginning and end of input

    Store result in user_input variable

    If user_input is not empty

      Return user_input string

End function

Function - input_int

Parameters - prompt (the message to display), max_value (maximum acceptable value)

Returns - Integer between 1 and max_value inclusive

Loop endlessly

    Try to execute the following

        Prompt user for input using prompt parameter

        Convert input to integer and store in value variable

        If value is between 1 and max_value inclusive

           Return value as integer

        Otherwise

           Display message asking for number between 1 and max_value

    If ValueError exception occurs

        Display "Invalid input. Please enter a valid number." message

End function

Function - save_data

Parameters - data (the list of category dictionaries to save to file)

Returns - Nothing

  Open data.txt file in write mode

  Write data to file in JSON format with 4-space indentation

  Close file

End function