Youtube video part 7 Python excercise

This is the sort of exercise you may be set as a student for a coding project:

Task question

Your school is holding an election for student representative with five candidates: Ann Hathaway, Bill Shakespeare, Joan D'Ark, Robin Hood, Bill Gates Write an appliction to do the following tasks:

- 1. Allow voters to select their candidate, with a chance to correct the wrong choice.
- 2. As soon as one person has finished voting, allow the next person to vote.
- 3. Keep track of how many votes each candidate receives.
- 4. At any point the official in charge can end the count by typing in the authorisation code "END"
- 5. On a single screen, print out the winner in a "high score table" format, with the winner at the top, The list of vote numbers for each candidate.

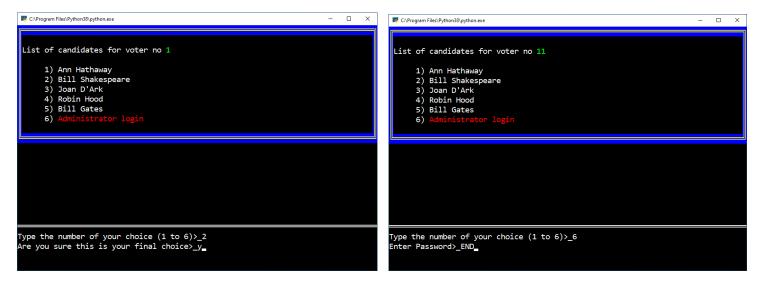
 The total number of votes cast.

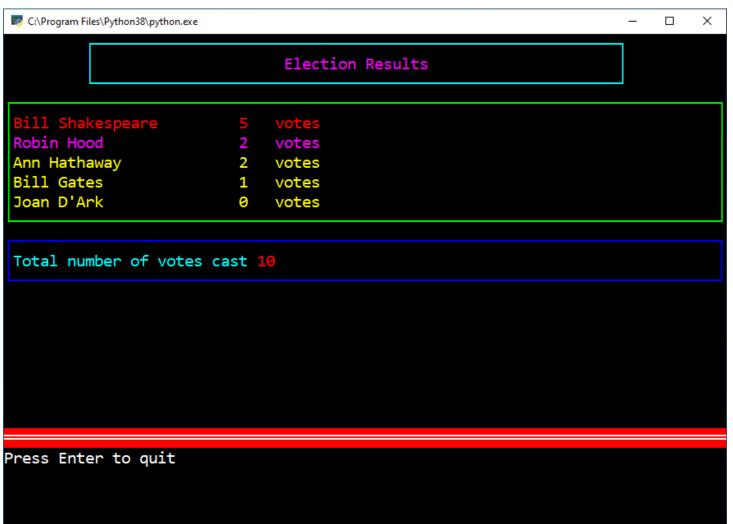
You can use either a menu system or free entry. Validate all user entries before continuing, including checking the authorisation code.

The colorconsole library can be used in this case and the full code is shown below.

Screenshots:







```
import ui
def populate(candidates):
    votes = {}
    for candidate in candidates:
        votes.update({candidate:0}) # votes["Ann Hathaway"] = 0
def sort(dictionary):
    return {key: value for key, value in sorted(dictionary.items(), key = lambda item: item[1])}
    # ui.menu(style, title, prompt_end, options, fore_color = 'white', back_color = blackbg, align = "left", width = 0)
    ui.set_console(80, 25, "white", "black", False)
                                                          # setup console size and colour
    voter no = 1
                                                           # voter count for display purposes
    confirm = False
                                                           # loop flag
    get votes = True
    candidates = ['Ann Hathaway', 'Bill Shakespeare', "Joan D'Ark", 'Robin Hood', 'Bill Gates']
                                                           # create dictionary of candidates and their votes
    votes = populate(candidates)
    candidates.append("~red~Administrator login")
                                                           # add additional menu item
                                                           # loop while admin has not entered 'END'
    while get_votes:
       title = f"List of candidates for voter no ~green~{voter_no}" # menu title
        while not confirm:
            choice, num_lines = ui.menu("d", title, '>_', candidates, 'yellow', 'bluebg')
            if choice == len(candidates) - 1:
                                                          # admin login
                password = ui.get_string(num_lines, "Enter Password", ">_")
                if password == "END":
                    confirm = True
                    ui.display_message("Incorrect password, returning to menu...", False, True, 'magenta', 'blackbg', 2)
            else:
                confirm = ui.get_boolean(num_lines, "Are you sure this is your final choice", '>_')
        if choice != len(candidates) - 1:
                                                           # admin login is the last menu item
            votes[candidates[choice]] += 1
            voter no += 1
            confirm = False
        else:
            get_votes = False
    votes = sort(votes)
    text_lines = []
    for key, value in votes.items():
       text_lines.insert(0, f"{key.ljust(25)}{str(value).ljust(4)}votes")
    text_lines[0] = "~red~" + text_lines[0]
                                                           # winner coloured red
    text_lines[1] = "~magenta~" + text_lines[1]
                                                          # second coloured magenta
    # ui.draw_multi_line_box(style, text_lines, fore_color, back_color, text_color, text_back_color, box_align, text_align, width)
    ui.clear()
    num_lines = ui.draw_multi_line_box("s", "Election Results", 'cyan', 'blackbg', 'magenta', 'blackbg', 'centre', 'centre', 60)
    num_lines = num_lines + ui.draw_multi_line_box("s", text_lines, 'green', 'blackbg', 'yellow', 'blackbg', 'centre', 'left', 80)
    num_lines = num_lines + ui.draw_multi_line_box("s", f"Total number of votes cast ~red~{voter_no - 1}", 'blue', 'blackbg', 'cyan', 'blackbg',
'centre', 'left', 80)
    num_lines = num_lines + ui.add_lines(5, num_lines)
    num_lines = num_lines + ui.draw_line("d", 'white', 'redbg')
    ui.quit(True)
main()
```

you can use num lines += in C# and Python, but not in Lua, so not used in this example