```
from tkinter import *
from tkinter import messagebox
from random import choice, randint, shuffle
import pyperclip
import json

# ---------------------------- PASSWORD GENERATOR
 ------------------------------ #

#Password Generator Project
def generate_password():
    letters = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h'
, 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', '
s', 't', 'u', 'v', 'w', 'x', 'y', 'z', 'A', 'B', 'C'
, 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', '
N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X'
, 'Y', 'Z']
    numbers = ['0', '1', '2', '3', '4', '5', '6', '7'
, '8', '9']
    symbols = ['!', '#', '$', '%', '&', '(', ')', '*'
, '+']

    password_letters = [choice(letters) for _ in
range(randint(8, 10))]
    password_symbols = [choice(symbols) for _ in
range(randint(2, 4))]
    password_numbers = [choice(numbers) for _ in
range(randint(2, 4))]

    password_list = password_letters +
password_symbols + password_numbers
    shuffle(password_list)

    password = "".join(password_list)
    password_entry.insert(0, password)
    pyperclip.copy(password)

# ---------------------------- SAVE PASSWORD
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def save():

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    website = website_entry.get()
    email = email_entry.get()
    password = password_entry.get()
    new_data = {
        website: {
            "email": email,
            "password": password,
        }
    }

    if len(website) == 0 or len(password) == 0:
        messagebox.showinfo(title="Oops", message="Please make sure you haven't left any fields empty.")
    else:
        try:
            with open("data.json", "r") as data_file:
                #Reading old data
                data = json.load(data_file)
        except FileNotFoundError:
            with open("data.json", "w") as data_file:
                json.dump(new_data, data_file, indent=4)
        else:
            #Updating old data with new data
            data.update(new_data)

            with open("data.json", "w") as data_file:
                #Saving updated data
                json.dump(data, data_file, indent=4)
        finally:
            website_entry.delete(0, END)
            password_entry.delete(0, END)


# ---------------------------- FIND PASSWORD ------------------------------- #
def find_password():
    website = website_entry.get()
    try:
        with open("data.json") as data_file:
            data = json.load(data_file)
```

```
67      except FileNotFoundError:
68          messagebox.showinfo(title="Error", message="
    No Data File Found.")
69      else:
70          if website in data:
71              email = data[website]["email"]
72              password = data[website]["password"]
73              messagebox.showinfo(title=website,
    message=f"Email: {email}\nPassword: {password}")
74          else:
75              messagebox.showinfo(title="Error",
    message=f"No details for {website} exists.")
76
77
78 # ---------------------------- UI SETUP
     ------------------------------- #
79
80 window = Tk()
81 window.title("Password Manager")
82 window.config(padx=50, pady=50)
83
84 canvas = Canvas(height=200, width=200)
85 logo_img = PhotoImage(file="logo.png")
86 canvas.create_image(100, 100, image=logo_img)
87 canvas.grid(row=0, column=1)
88
89 #Labels
90 website_label = Label(text="Website:")
91 website_label.grid(row=1, column=0)
92 email_label = Label(text="Email/Username:")
93 email_label.grid(row=2, column=0)
94 password_label = Label(text="Password:")
95 password_label.grid(row=3, column=0)
96
97 #Entries
98 website_entry = Entry(width=21)
99 website_entry.grid(row=1, column=1)
100 website_entry.focus()
101 email_entry = Entry(width=35)
102 email_entry.grid(row=2, column=1, columnspan=2)
103 email_entry.insert(0, "lenargasimov@gmail.com")
```

```
104 password_entry = Entry(width=21)
105 password_entry.grid(row=3, column=1)
106
107 # Buttons
108 search_button = Button(text="Search", width=13,
    command=find_password)
109 search_button.grid(row=1, column=2)
110 generate_password_button = Button(text="Generate
    Password", command=generate_password)
111 generate_password_button.grid(row=3, column=2)
112 add_button = Button(text="Add", width=36, command=
    save)
113 add_button.grid(row=4, column=1, columnspan=2)
114
115 window.mainloop()
```