SQIT 3073 BUSINESS ANALYTICS PROGRAMMING

SECOND SEMESTER SESSION 2023/2024 (A232)

GROUP A

BRIEF TECHNICAL MANUAL REPORT

INDIVIDUAL PROJECT:

MALAYSIAN TAX INPUT PROGRAM USING PYTHON

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1. Introduction

The Malaysian Tax Input Program is a Python-based application designed to assist users in calculating their tax payable based on annual income and tax reliefs. It also provides functionalities for user registration, authentication, and data storage in CSV files using the pandas library.

2. Objective

The main objectives of this program are:

- To implement user registration and authentication using IC (Identity Card) numbers.
- To calculate the tax payable based on the user's annual income and tax relief amount.
- To store the user's data (ID, IC number, income, tax relief, and tax payable) in a CSV file.
- To read data from the CSV file and display the tax records.

3. Background

This program is designed to simplify the process of tax calculation for Malaysian residents by automating the tax computation and storage processes. The program follows a structured approach to ensure user data is securely handled and provides accurate tax calculations based on the Malaysian tax system.

4. Methodology/Workflow

1. **User Registration**: Prompt users to enter their ID and IC number for registration.
2. **User Authentication**: Validate the user's credentials using the last 4 digits of their IC number.
3. **Data Input**: Collect annual income and tax relief amounts from the user.
4. **Tax Calculation**: Compute the tax payable using a predefined tax rate structure.
5. **Data Storage**: Save user data to a CSV file.
6. **Data Retrieval**: Read and display stored tax records from the CSV file.

5. Initial Setup and Configuration

1. **Environment Setup**:
    - Ensure Python is installed on your system.
    - Install the pandas library using the command: pip install pandas.
2. **Directory Structure**:
    - Create a directory for the project.
    - Inside the directory, create two files: main.py and functions.py.
3. **Function Implementation**:
    - Implement utility functions in functions.py.
    - Implement the main program logic in main.py.

6. Basic Operations

1. **Running the Program**:
    - Execute main.py to start the program.
    - Follow the prompts for user registration or login.
    - Enter annual income and tax relief amounts when prompted.
    - View the calculated tax payable and saved data confirmation.
2. **Data Storage**:
    - User data is stored in a CSV file named tax_records.csv.
3. **Viewing Tax Records**:
    - The program will display all saved tax records after each session.

7. Troubleshooting and FAQs

1. **Invalid IC Number**:
    - Ensure the IC number is exactly 12 digits long.
2. **Incorrect Password**:
    - Make sure the password entered matches the last 4 digits of the IC number.
3. **Invalid Income or Tax Relief Input**:
    - Enter valid numerical values for income and tax relief amounts.
4. **CSV File Issues**:
    - Ensure tax_records.csv is not open in another program while running the script.

8. Limitations

- This program is limited to individual income tax calculation where individual income must not exceed RM100,000.
- Income tax calculation is valid for year 2023 only due to the tax rate is changing from year to year.
- User have to identify tax relief amount before using this program.

9. Link to Python Source Code in Github

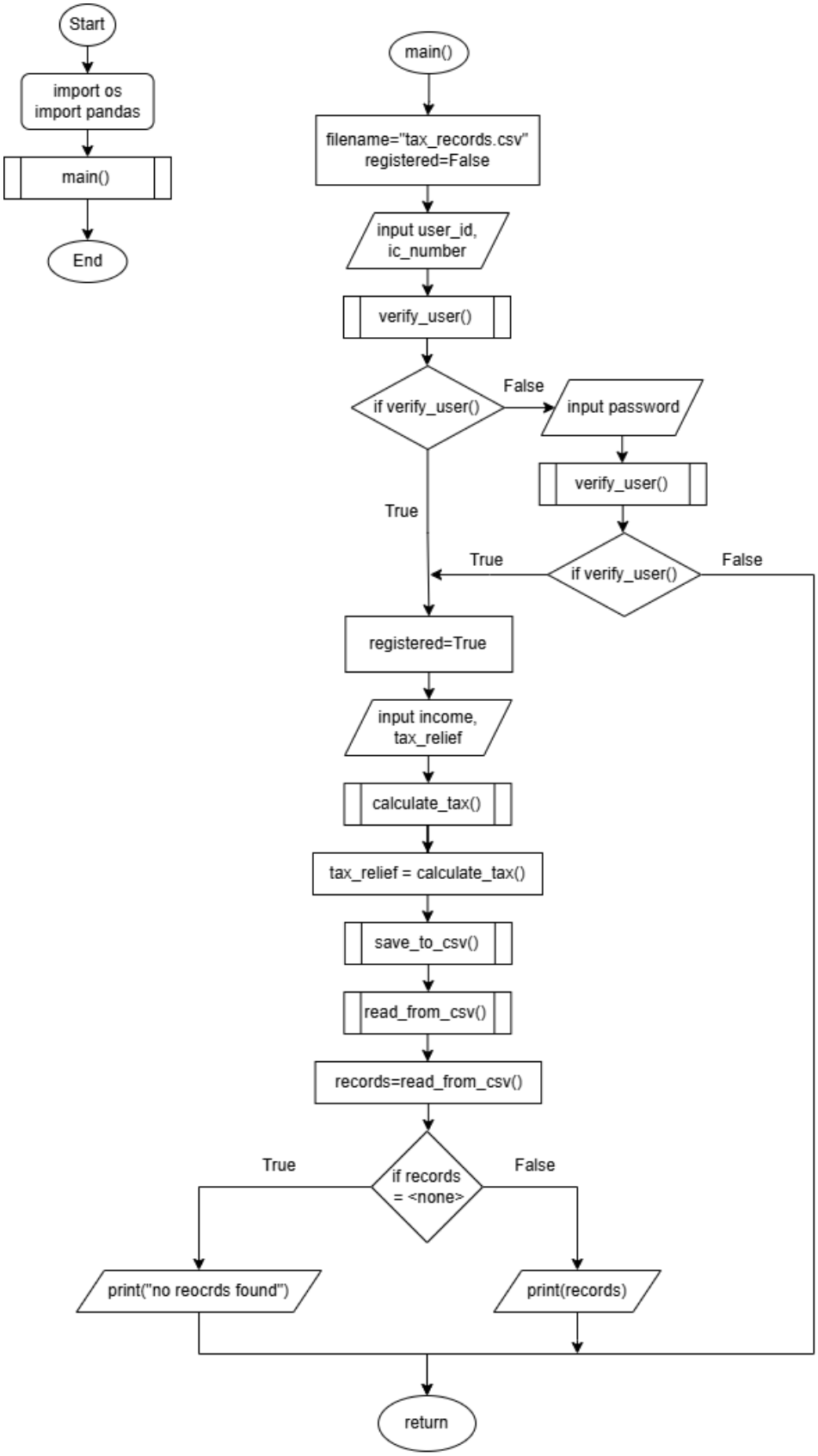
https://github.com/chewkxmy/Business-Analytic-Programming/tree/main/Indiv_Project

10. References

- LHDN Official website: https://www.hasil.gov.my/
- Python Documentation: https://docs.python.org/3.10/
- Pandas Documentation: https://pandas.pydata.org/docs/

Appendix 1 - Flow Chart

Main.py



Functions.py