CPT113/CPM213
Programming Methodology & Data Structures
Assignment 2

iTaxPro: Income Tax Estimation Application

Tax is imposed annually on individuals earning income from various sources, including business gains or profits, employment income, dividends, interest, discounts, rent, royalties, premiums, pensions, annuities, or other periodic payments, as well as gains not categorized under these headings. The administration and collection of income tax on taxable persons and income are governed by the Income Tax Act 1967 (ITA), with the Inland Revenue Board of Malaysia (IRBM) serving as a key revenue-collecting agency under the Ministry of Finance. Individual income tax is a tax levied by a government on the earnings of individuals. It includes income from various sources such as salaries, wages, business profits, dividends, rents, and other gains. The tax is typically calculated as a percentage of the individual's taxable income, which is determined after deducting allowable expenses, reliefs, and exemptions. Individual income tax serves as a significant source of government revenue and is used to fund public services and infrastructure. Rates and regulations vary by country and may include progressive tiers where higher income levels are taxed at higher rates.

The iTaxPro application is designed to estimate an individual’s income tax based on Malaysia’s 2024 tax rates. First, the app calculates the chargeable income by deducting 13% from the individual's total annual income. Then, the estimated tax is calculated according to the corresponding income category and tax rate. Table 1 outlines the income categories and applicable tax rates:

Table 1: line 65

Category	Chargeable Income	Calculations (RM)	Rate %	Tax (RM)
A	0 - 5,000	On the First 5,000	0	0
B	5,001 - 20,000	On the First 5,000 Next 15,000	1	0 150
C	20,001 - 35,000	On the First 20,000 Next 15,000	3	150 450
D	35,001 - 50,000	On the First 35,000 Next 15,000	6	600 900
E	50,001 - 70,000	On the First 50,000 Next 20,000	11	1,500 2,200
F	70,001 - 100,000	On the First 70,000 Next 30,000	19	3,700 5,700
G	100,001 - 400,000	On the First 100,000 Next 300,000	25	9,400 75,000
H	400,001 - 600,000	On the First 400,000 Next 200,000	26	84,400 52,000
I	600,001 - 2,000,000	On the First 600,000 Next 1,400,000	28	136,400 392,000
J	Exceeding 2,000,000	On the First 2,000,000 Next ringgit	30	528,400

PROGRAM DESIGN REQUIREMENTS:

Design a solution using object-oriented approach**.** It is important for the application to provide relevant information for a user to use it easily. The menu should have full control of the program execution. The application must include, but is not limited to, the following functionalities:

save file:line 295

- Read input data from a text file and store it in a linked list data structure. line 426
- Add and delete specific individual add: line 478, delete:line 548
- Calculate the estimated tax based on the provided income. line 65
- Display all stored data from the linked list. line 466
- Show the estimated tax for a specific individual based on their ID. line 522
- List all calculated estimated taxes. line 466
- Display the total number of individuals in each tax category. line 573

[Note: The text file should only be read once, and then the relevant data should be stored in a linked list. Data manipulations such as retrieving tax information, displaying individual details, or displaying the total number of individuals in each tax category must be performed using the linked list. Direct retrieval of the text file is not allowed after the initial data loading]

The implementation of the program must meet the following specification requirements.

- Define a `class person` that ONLY stores data: `name`, `jobId`, `annualIncome`, `chargeableIncome`, `estimatedTax`. You should provide necessary methods for the `class person`.
- Implement the standard linked list class to store the objects of the Person class. The linked list should provide basic operations like adding, deleting, and displaying nodes.
- Calculating the estimated tax, display related information, MUST BE retrieved from linked list.
- You MUST use the standard **linked list** as data structure to provide the solution using the approach [D.S Malik Book] as taught in the lecture in this course.
- Global variables are **NOT** allowed in your program.
- You are NOT allowed to implement vector
- **You must use the programming approach taught in the class**.

General requirements:

- Input validation line 393
- Good interactive Interface and menu Design including presentable manner and easy to understand with a proper instruction and ease of use
- Meaningful comments in the source code

SUBMITION INSTRUCTIONS:

Please Upload your assignment 2 (C++ source Code) on e-Learning. Name the source code file as follow: **Assign2_Student1_matric No._Student2_Matric No. [e.g. assign2_12345_22334].**

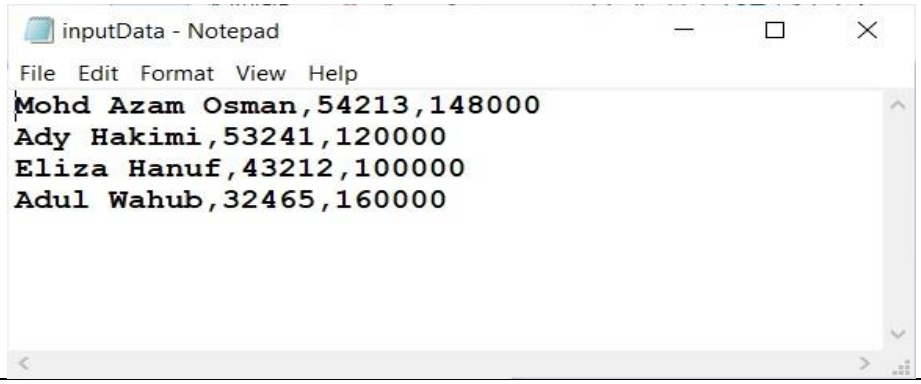
Deadline: 6 January 2025 (11.59 PM)

Course Policy:

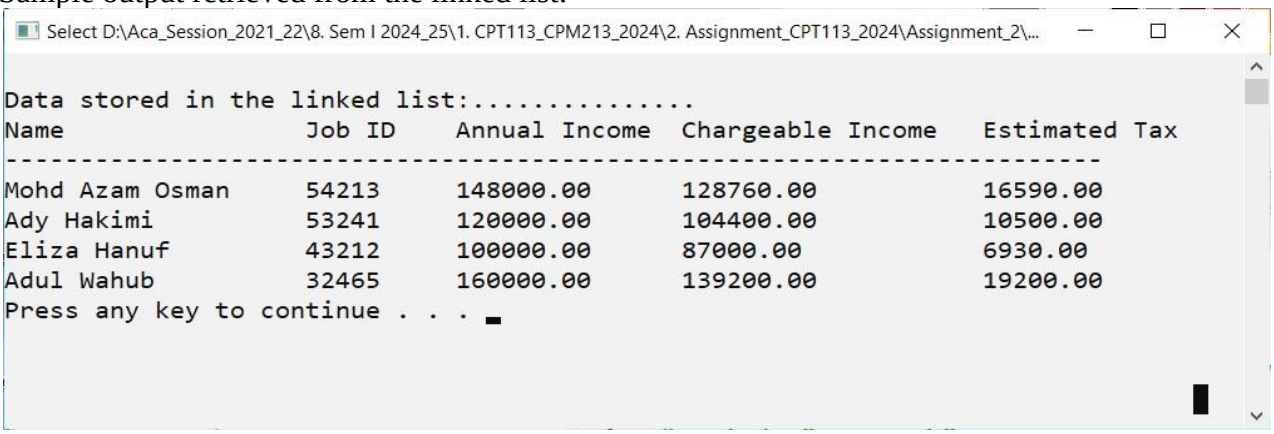
•All assignments MUST be submitted before/on the given date. Late submissions without prior approval from the lecturer will not be accepted. **8 marks will be deducted** for each day of late submission.

Plagiarism or copying are serious academic offenses. Students who are found to plagiarize or copy will receive an F for the assignment or the entire coursework grade and will be barred from taking the final examination. It is important to read your undergraduate Programme Handbook.

Sample of input text file:



Sample output retrieved from the linked list:



Sample search individual data: