

CSC248 – Fundamentals of Data Structure
Academic Session Oct 2023 – Feb 2024
Lab Assignment – Review of OOP

Course Outcomes (CO)	LO1	LO2	LO3
CO1			
CO2	√	√	√
CO3			

1.1 Class `Land` has the following attributes and methods:

Attributes:

- `id`
- owner name
- house type
- area

i. Write the `Land` class and the following methods:

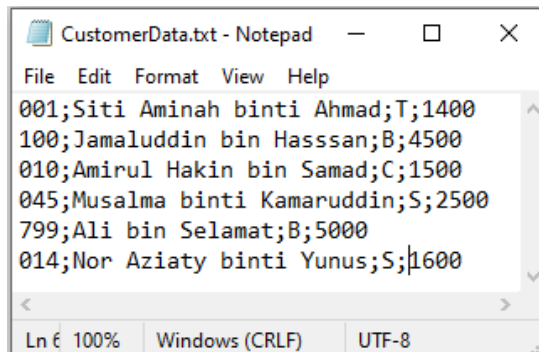
- Default constructor.
- Normal constructor that set all data with values given through the parameter.
- Mutator/Setter method
- Retriever method for each attribute.
- Printer method using `toString()` defined method.
- A processor method to calculate and return the tax amount. The tax of this type of land depends on its area, and the type of the house built on the land as shown in the following table:

House Type	Description	Tax rate (RM/m ³)
T	Terrace	10
S	Semi-Detached	15
B	Bungalow	20
C	Condominium	30

Details of land

ii. Write an application program that performs the following:

- a) Declare array of object for `Land` objects.
- b) Given the input file named `customerData.txt` that includes the customers data such as id, owner name, house type and area. The following input text file includes all record of customer for the `Land` class:



Write a program that reads each record from `customerData.txt` and store onto array of object `Land`.

- c) Display a menu selection to select the following process:

Menu Selection

1. Sorting using Bubble Sort
2. Sorting using Insertion Sort
3. Searching using Binary Search

Your Option: XX

******Details explanation:**

- 1-Sorting using Bubble Sort – Sort the list based on the tax price and display the list
- 2.Sorting using Insertion Sort – Sort the list based on id and display the list
- 3.Searching using Binary Search-Search the item from the list based on id and display the information detail.