Java Programming I

Curriculum: **ACCP2013**	Exam Date:
Semester: **2**	29/06/2022

Duration: **90 minutes**	Total Marks: 20

Practical Examination

1. [**2.5p**]Create an abstract class named as **Product** in package **com.product**, has following properties:

#	Data Type	Name	Access modifier
1	String	proId	protected
2	String	proName	protected
3	int	year	protected
4	float	price	protected

- Create two constructors, all method get/set for it's properties.
- Create two abstract methods:

    public abstract void input();

    public abstract void display();

2. Create a class, named **Computer** in package **com.product.computers**, extend class **Product** and added follow properties:

#	Data Type	Name	Access modifier
1	String	speed	private
2	String	producer	private

- [**1p**] Create two constructors for **this** class:
    o One has no argument
    o One has 6 arguments, to set value for inherited and added properties. You must used **this** keyword to call parent construtor which has arguments.
- [**1p**] Create get/set method for added properties.
- [**2.5p**] Implement **input()** and **display()** method, which inherited from Product class.
    o Input(): allows user to enter values for all added and inherited properties of the Computer object.
    o Display(): print out all properties of the Computer object.

3. Create a class, named **Book** in package **com.product.books**, extend class Product and added follow properties:

#	Data Type	Name	Access modifier
1	String	type	private
2	String	publisher	private

- [**1p**] Create two constructors for **this** class:
    o One has no argument
    o One has 6 arguments, to set value for inherited and added properties. You must used this keyword to call parent construtor which has arguments.
- [**1p**] Create get/set method for added properties.
- [**2.5p**] Implement **input()** and **display()** method, which inherited from Product class.
    o Input(): allows user to enter values for all added and inherited properties of the Book object.
    o Display(): print out all added and inherited properties of the Book object.

4. Create class **Test** , in package **com.product.test**, has a `main` method to run the application. Main method should do the following tasks:
   1. Display a Menu for user to select:

   > Please select:
   > 1. Input information for n Computers.
   > 2. Input information for n Books.
   > 3. Display information of n Computers by sorting the price descending.
   > 4. Display information of n Books by sorting the `publisher` ascending.
   > 5. Exit.
   > Your choice:

   2. When user chooses number 1: Input information for n Computers into an array of Computer type **[1p]**.
   3. When user chooses number 2: Input information for n Books into an array of Book type **[1p]**.
   4. When user chooses number 3: Display information in array of Computer type above **[3p]**.
   5. When user chooses number 4: Display information in array of Book type above **[3p]**.
   6. When user chooses number 5: Exit the program **[0.5p]**.