

SWT 12031: Practical for Object oriented Program
Lab Sheet No: 10
Interface in Java

Time :- 09.30 – 12.30 pm

Submission Due: 2023-07-24

Title: Interface in Java.

Aim: Getting practice to use an interface while writing java programs.

Tasks:

- Interface – Syntax
- Final variables
- Abstract methods
- Extending interface

Exercise 01:

Create a simple interface – Cricketer with a final variable - Id and abstract method – bowl. Then create a class that implements the interface. Implement the capabilities of the interface and test the program with a driver code.

Exercise 02:

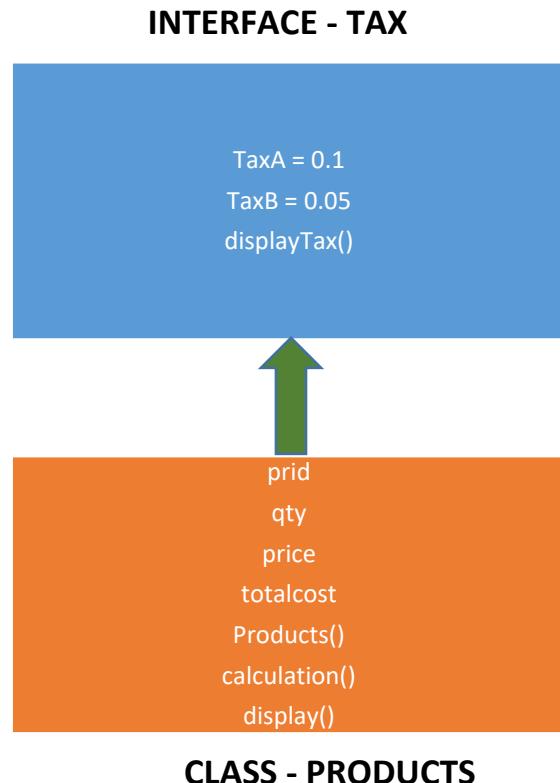
Create an interface – Vehicle that interfaces the vehicles such as bicycle and car and put all their common functionalities together.

Hint:

- *Define the interface.*
- *Define the abstract methods to change the gear, speed up and apply breaks.*
- *Implement the classes bicycle and car based on the interface.*

Exercise 03:

Implement a java program according to the scenario described below using the concept of *Inheritance in Interface*.



Hint:

- $qty > 1000$ ----- Tax = 10%
- $qty \leq 1000$ ----- Tax = 5%

Exercise 04:

Write a program to develop an interface **Drawable**.

- a. Your interface should include
 - i. Method draw();
 - ii. And a default method message() to display the message “Welcome to Interface in Java”
- b. Next create a class **Rectangle** that implements the Drawable interface.
 - i. Include a method draw () and display the message “Draw a Rectangle”.
- c. Finally create a **TestInterface** class with the main () method. Within this class,
 - i. Create an object **rect**.
 - ii. Call the methods draw () and message () for the object created.

Discussion:

- ❖ Will constructors be used in interfaces? Explain.
- ❖ Is it possible to change the value of an interface field? Explain.
- ❖ Is it possible to declare an Interface with the keyword "abstract"? Explain.
- ❖ After compilation, a class file will be created for each Interface in Java. Is this true or false?
Explain.
- ❖ Is it possible to override an interface method that has a different visibility than public?
Explain.
- ❖ Is it possible for interfaces to become local members of methods? Explain.
- ❖ Is it possible for an interface to extend a class? Explain.
- ❖ Is it possible to include static methods in an interface? Explain.