

**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**

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**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:**

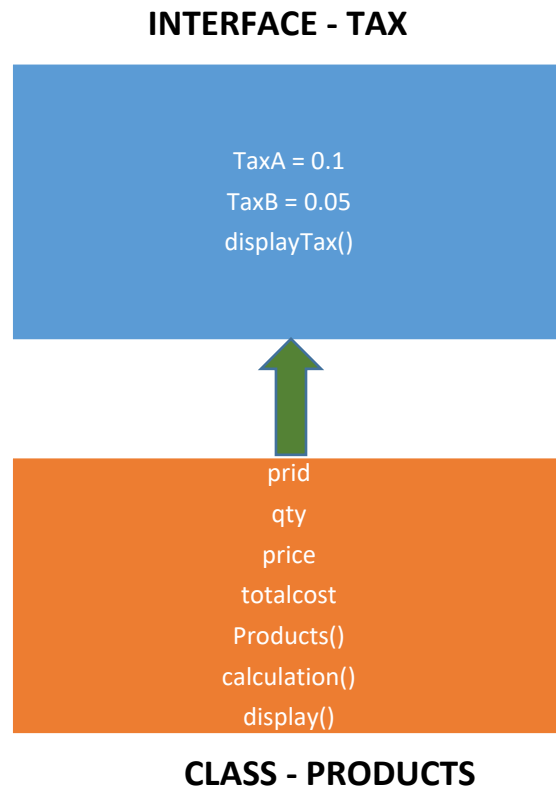
Create an interface – Vehicle that interfaces the vehicles such as bicycle and car and put all their common functionalities together.

*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.