

# C322 A1 - Written Problems and Diagrams

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## 1 Problem 1.B

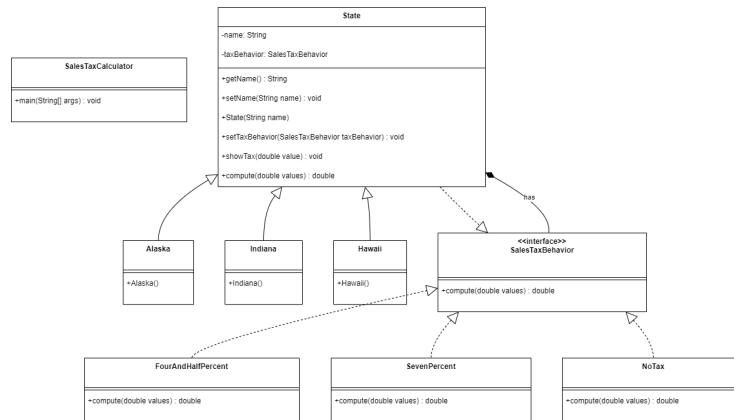


Figure 1: UML diagram for State Tax program.

## 2 Problem 2

- 1: IS-A - since MallardDuck is a type of Duck (a subclass of Duck)
- 2: IS-A - since ReadheadDuck is a type of Duck (a subclass of Duck)
- 3: IS-A - since RubberDuck is a type of Duck (a subclass of Duck)
- 4: IS-A - since DecoyDuck is a type of Duck (a subclass of Duck)
- 5: HAS-A - since the Duck class has a FlyBehavior object as an instance variable.
- 6: HAS-A - since the Duck class has a QuackBehavior object as an instance variable.

- 7: IS-A - since Quack implements the interface QuackBehavior
- 8: IS-A - since Squeak implements the interface QuackBehavior
- 9: IS-A - since MuteQuack implements the interface QuackBehavior

### 3 Problem 3

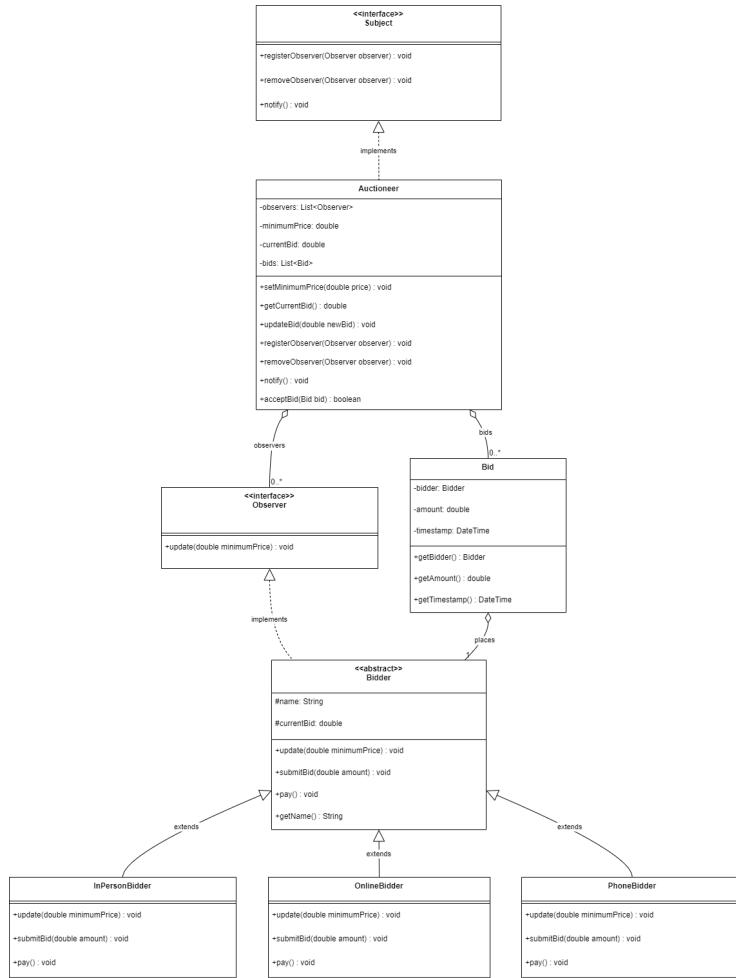


Figure 2: UML diagram for Auction System.