AP Computer Science A
Ticket Out the Door
Set 26: Abstract Classes and Interfaces

Name _____ Period _____

Skill 26.1: Exercise 1

The MyCar class below extends the Car class. For each line of code indicated with a letter (A – E), indicate whether the statement is valid or invalid. If it is invalid, indicate why.

```
public abstract class Car{

        private int year = 2015;
        private String model = "Landcruiser";

        public abstract String getMake();          (A)

        public abstract int getYear(){
            return year;                           (B)
        }

        public String model(){
            return model;                          (C)
        }
}
```

```
public class MyCar extends Car{
        public static void main(String args[]){

            Car newCar = Car();                    (D)

            public String getMake(){
                return "Toyota";                   (E)
            }
}
```

(A)

(B)

(C)

(D)

(E)

Skill 26.2: Exercise 1

(a) Declare an abstract class Insect. Then declare another class called Bee which inherits Insect, then write a main method.
(b) Declare a method in the Insect class called getLegs(), which returns the number of legs as an int.
(c) Declare a Boolean abstract method in the Insect class called canFly()
(d) In the Bee class, call the getLegs method
(e) In the Bee class, implement and call the canFly method

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Skill 26.3: Exercise 1

(a) Declare an interface called Animal
(b) Declare a class called Ant that implements Animal

Skill 26.4: Exercise 1

Consider the vehicle interface below. The Car and Bike classes implement the Vehicle interface. Write the Car and Vehicle classes.

```
Public interface Vehicle {

    // all are the abstract methods.
    void changeGear(int a);
    void speedUp(int a);
    void applyBrakes(int a);
}
```