AP Computer Science A
Ticket Out the Door
Set 25: Abstract Classes and Interfaces

Name _____ Period _____

Skill 25.2: 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";
(A)
  public abstract String getMake();
(B)
  public abstract int getYear(){
              return year;
  }
(C)
  public String model(){
        return model;
  }
}
```

```
public class MyCar extends Car{
 public static void main(String args[]){
(D)
         Car newCar = new Car();
          }
(E)
          public String getMake(){
               return "Toyota";
 }
}
```

(A)

(B)

(C)

(D)

(E)

Skill 25.2: Exercise 2

(a) Declare an abstract class Insect. Then declare another class called Bee which inherits Insect.
(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, implement the canFly method
(e) Write the main class and in the main class instantiated a Bee object, then call getLegs() and canFly()

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Skill 25.4: Exercise 1

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

Skill 25.4: Exercise 2

Consider the animal interface below. The Unicorn and Dinosaur classes implement the Animal interface. Write the Unicorn and Dinosaur classes.

```
public interface Animal {

//All the methods below are abstract
  void setAge(int a);
  void setType(String t);
  boolean getEats(boolean e);
}
```

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