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```
class Double:
// = s's value, as a double
static double parseDouble(String s)
class Integer:
// = s's value, as an int.
static int parseInt(String s)

class String:
  String substring(int i, int j) // = the letters from i (inclusive) to j (non-inclusive)
  String substring(int i) // = the letters from i (inclusive) to the end
  int indexOf(String s) // = the index of s in this String; -1 if s is not a substring
  int indexOf(String s, int i) // = index of s in this String after i; -1 if s not found
  int length() // = the number of characters in this String
```

---

1. [1 mark] In class Car, declare an int instance variable called numGears.

```
  public class Car {

    private int numGears;

  }
```

---

2. [2 marks] marks] In class LegoCar, write a method getName that returns the name of the LegoCar.

```
  public class LegoCar {

    private String name;

    public String getName() {
      return name;
    }

  }
```

---

3. [3 marks] In class LegoCar, write a method setName that has one parameter and sets the name of the LegoCar to that parameter.

```
  public class LegoCar {

    private String name;

    public void setName(String s) { // okay to have non-void return type
      name= s;
    }
  }
```

---

4. [4 marks] In class CarMaze, write a constructor that take two parameters, a double variable d and a String variable m, and initializes ratio and mazeTitle.

```
  public class CarMaze {

    private double ratio;
    private String mazeTitle;

    public CarMaze(double d, String m) {
      ratio= d;
      mazeTitle= m;
    }
  }
```

---

5. [5 marks] In class CarMaze, write a constructor that takes a single String of the form "double, String" (for example, "3.3, Silly Maze"), and sets ratio and mazeTitle to the two pieces.

```
  public class CarMaze {

    private double ratio;
    private String mazeTitle;

    public CarMaze(String ratioTitle) {
      ratio= Double.parseDouble(ratioTitle.substring(0,ratioTitle.indexOf(',')));
      mazeTitle= ratioTitle.substring(ratioTitle.indexOf(',') + 2);
    }
  }
```

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```
class Double:
// = s's value, as a double
static double parseDouble(String s)

class Integer:
// = s's value, as an int.
static int parseInt(String s)

class String:
  String substring(int i, int j) // = the letters from i (inclusive) to j (non-inclusive)
  String substring(int i) // = the letters from i (inclusive) to the end
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  int indexOf(String s, int i) // = index of s in this String after i; -1 if s not found
  int length() // = the number of characters in this String
```

---

1. [1 mark] In class Bicycle, declare an int instance variable called numGears.

```
  public class Bicycle {

    private int numGears;
  }
```

---

2. [2 marks] In class LegoBicycle, write a method getName that returns the name of the LegoBicycle.

```
  public class LegoBicycle {

    private String name;

    public String getName() {
      return name;
    }
  }
```

---

3. [3 marks] In class LegoBicycle, write a method setName that has one parameter and sets the name of the LegoBicycle to that parameter.

```
  public class LegoBicycle {

    private String name;

    public void setName(String n) { // non-void return also okay
      name= n;
    }
  }
```

---

4. [4 marks] In class BicycleMaze, write a constructor that take two parameters, a double variable d and a String variable m, and initializes gearRatio and mazeTitle.

```
public class BicycleMaze {

  private double gearRatio;
  private String mazeTitle;

  public BicycleMaze(double d, String m) {
    gearRatio= d;
    mazeTitle= m;
  }
}
```

---

5. [5 marks] In class BicycleMaze, write a constructor that takes a single String of the form "double, String" (for example, "3.3, Silly Maze"), and sets gearRatio and mazeTitle to the two pieces.

```
public class BicycleMaze {

  private double gearRatio;
  private String mazeTitle;

  public BicycleMaze(String ratioTitle) {
    gearRatio= Double.parseDouble(ratioTitle.substring(0, ratioTitle.indexOf(',')));
    mazeTitle= ratioTitle.substring(ratioTitle.indexOf(',') + 2);
  }
}
```