```java
/**
 * Life form that did not originate on planet Earth.
 *
 * @author Chris Mayfield
 * @version 12/12/2015
 */
public class Alien {

    private static int alienCount;

    private static int rogueCount;

    private String name;

    private Location loc;

    private boolean wanted;

    /**
     * Explicit value constructor.
     *
     * @param name the alien's real name
     * @param loc location of the alien
     */
    public Alien(String name, Location loc) {
        Alien.alienCount++;
        this.name = name;
        this.loc = loc;
        this.wanted = false;
    }

    /**
     * Indicates that an alien that has been captured and placed at the
     * JMU detention facility.
     * If the alien was a wanted criminal, then reset wanted to false and
     * decrement the rogueCount.
     */
    public void capture() {
        this.loc = Location.JMU;
        if (this.wanted) {
            this.wanted = false;
            Alien.rogueCount--;
        }
    }

    /**
     * Indicates an alien has been deported. It is possible to deport an
     * alien without a prior capture. If this alien is wanted, reset the
     * the wanted attribute to false and decrement the rogueCount.
     */
    public void deport() {
        Alien.alienCount--;
        this.loc = null;
        if (this.wanted) {
            this.wanted = false;
            Alien.rogueCount--;
        }
    }
    /**
     * Identifies that an alien has violated the rules of alien immigration.
     * If this is a new identification (wanted is false), set wanted to true
     * and increment the rogue count.
     */
    public void goneRogue() {
        if (!this.wanted) {
            this.wanted = true;
            Alien.rogueCount++;
        }
    }

    /**
     * Places this alien into a new location.
     *
     * @param newLoc new location
     */
    public void move(Location newLoc) {
        this.loc = newLoc;
    }

    /**
     * Returns a string representation of this alien.
     *
     * @return name, alias, home, and current status
     */
    public String toString() {
        String status;
        if (this.loc == null) {
            status = "off planet";
        } else if (this.wanted) {
            status = "gone rogue";
        } else {
            status = "at " + this.loc;
        }
        return String.format("%s is currently %s", this.name, status);
    }
}
```

```java
/**
 * Global position in terms of latitude and longitude.
 *
 * @author Chris Mayfield
 * @version 12/12/2015
 */
public class Location {

    public static final Location JMU = new Location(38.435, -78.875);

    public static final Location ISAT = new Location(38.434, -78.863);

    private double lat;

    private double lon;

    /**
     * Explicit value constructor.
     *
     * @param lat latitude in degrees
     * @param lon longitude in degrees
     */
    public Location(double lat, double lon) {
        this.lat = lat;
        this.lon = lon;
    }

    /**
     * Indicates whether this is "equal to" that.
     *
     * @param that other location to compare
     * @return true if they are close enough
     */
    public boolean equals(Location that) {
        return Math.abs(this.lat - that.lat) <= .000001
            && Math.abs(this.lon - that.lon) <= .000001;
    }

    /**
     * Returns a string representation of this location.
     *
     * @return lat and lon formatted to two decimal places
     */
    public String toString() {
        return String.format("%.2f/%.2f", this.lat, this.lon);
    }

}
```

```
/**
 * Example program for CS 149 final exam.
 *
 * @author Chris Mayfield
 * @version 12/12/2015
 */
public class MIB {

    /**
     * Creates and monitors several aliens.
     *
     * @param args command line arguments
     */
    public static void main(String[] args) {
        Alien a1 = new Alien("Buffy", Location.ISAT);
        a1.goneRogue();
        System.out.println(a1);

        Alien a2 = new Alien("Kai-El", Location.JMU);
        a2.move(Location.ISAT);
        System.out.println(a2);

        Alien a3 = a2;
        a3.capture();
        System.out.println(a3);

        Alien a4 = new Alien("Padme", new Location(40.0, -75.0));
        a4.deport();
        System.out.println(a4);
    }

}
```