```
public class Spaceship {
        private String shipName;
        private int passengerCount;
        private int maxPassengers;

        public Spaceship(String shipName, int maxPassengers) {
                this.shipName = shipName;
                this.maxPassengers = (maxPassengers >= 0)?maxPassengers:100;
                /* Code above is equal to:
                if (maxPassengers >= 0)
                        this.maxPassengers = maxPassengers;
                else
                        this.maxPassengers = 100; */

        }

        public void setShipName(String shipName) {
                this.shipName = shipName;
        }

        public String getShipName() {
                return this.shipName;
        }

        public int getMaxPassengers() {
                return this.maxPassengers;
        }

        public void board(int boardingPassengers) {
                if ( this.passengerCount + boardingPassengers <= maxPassengers) {
                        this.passengerCount += boardingPassengers;
                }
        }

        public void leave(int leavingPassengers) {
                if ( this.passengerCount - leavingPassengers >= 0 ) {
                        this.passengerCount -= leavingPassengers;
                }
        }

        public int getPassengerCount() {
                return this.passengerCount;
        }

        public void transferTo(Spaceship newShip) {
                if (newShip == null)
                        return;

                if (this.getPassengerCount() + newShip.getPassengerCount() <= newShip.getMaxPassengers()) {
                        newShip.board(this.getPassengerCount());
                        this.leave(this.getPassengerCount());
                }
        }
        // Method toString() will automatically be called when the object is called
        // inside a System.out.println() instruction.
        public String toString() {
                String out = "Ship name: " + this.getShipName() + "\n" +
                             "Passenger count: " + this.getPassengerCount() + "\n" +
                             "Max passengers: " + this.getMaxPassengers();
                return out;
        }
}
```

Informática II – Prepa Tec Campus Eugenio Garza Lagüera

Actividad 6: Spaceship

Sección I.: De acuerdo con la clase “Spaceship”, responde los siguientes ejercicios. Considera que cada problema es independiente del anterior.

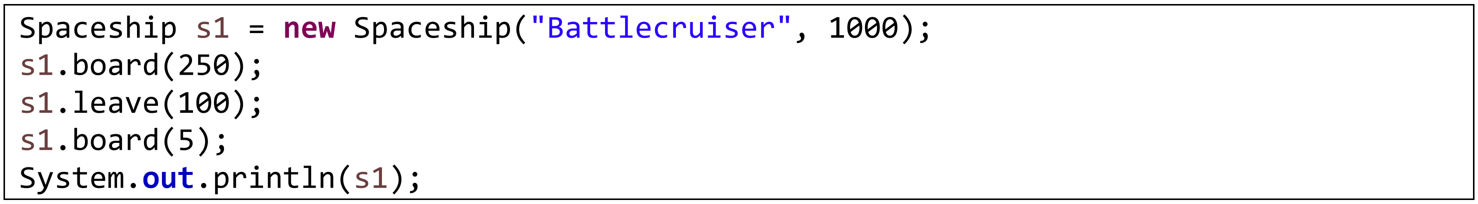
Problema 1:

```
String shipName;
int passengerCount;
Spaceship s1 = new Spaceship("Millenium Falcon", 20);

s1.board(10);
shipName = s1.getShipName();
System.out.println(shipName);
passengerCount = s1.getPassengerCount();
System.out.println(passengerCount);
```

Problema 2:

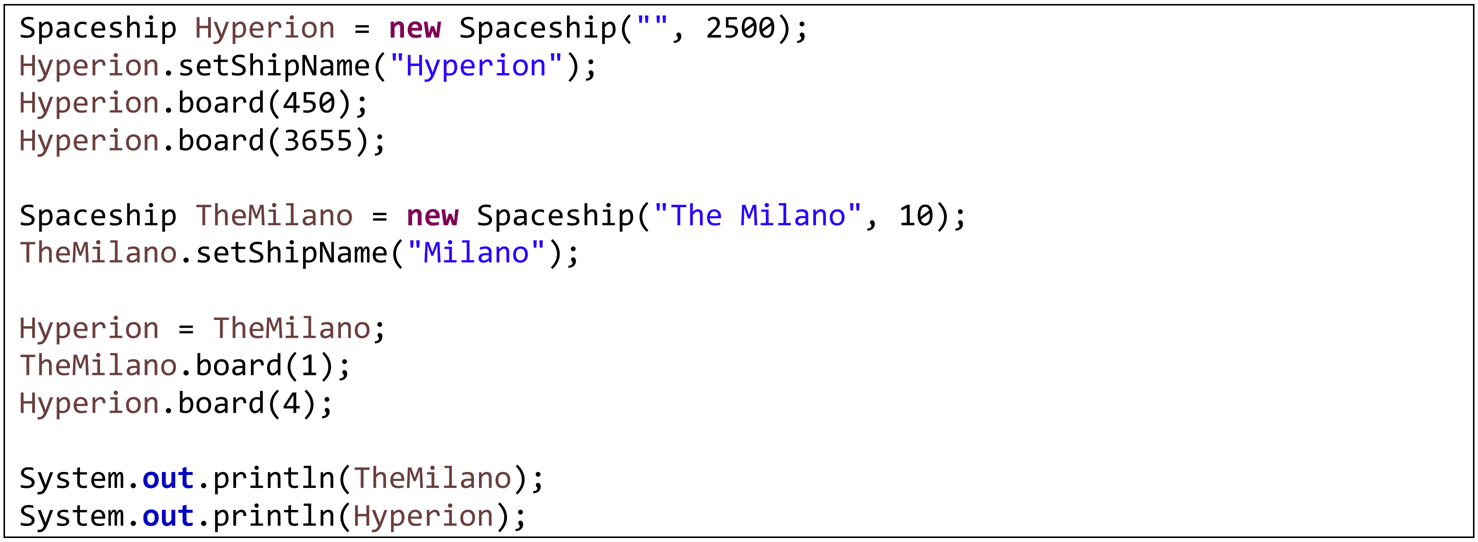
```
String shipName;
int passengerCount;
Spaceship s2 = new Spaceship("X–Wing", 2);

passengerCount = s2.getPassengerCount();
System.out.println(passengerCount);
s2.board(1);
passengerCount = s2.getPassengerCount();
System.out.println(passengerCount);
s2.board(1);
passengerCount = s2.getPassengerCount();
System.out.println(passengerCount);

shipName = s2.getShipName();
System.out.println(shipName);
s2.setShipName("X Wing");
shipName = s2.getShipName();
System.out.println(shipName);
shipName = s2.getShipName();
```

Problema 3:



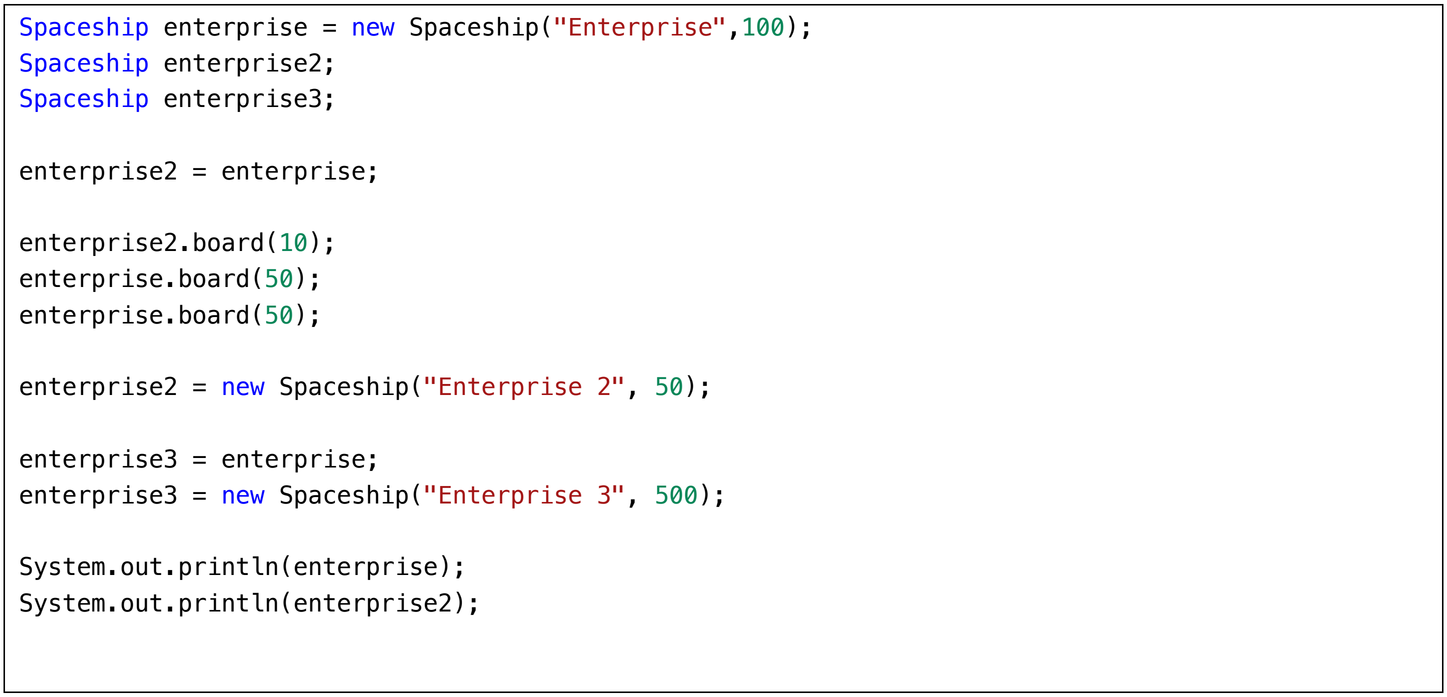
```
Spaceship s1 = new Spaceship("Battlecruiser", 1000);
s1.board(250);
s1.leave(100);
s1.board(5);
System.out.println(s1);
```

Problema 4:



```
Spaceship Hyperion = new Spaceship("", 2500);
Hyperion.setShipName("Hyperion");
Hyperion.board(450);
Hyperion.board(3655);

Spaceship TheMilano = new Spaceship("The Milano", 10);
TheMilano.setShipName("Milano");

Hyperion = TheMilano;
TheMilano.board(1);
Hyperion.board(4);

System.out.println(TheMilano);
System.out.println(Hyperion);
```

Problema 5:



```
Spaceship enterprise = new Spaceship("Enterprise",100);
Spaceship enterprise2;
Spaceship enterprise3;

enterprise2 = enterprise;

enterprise2.board(10);
enterprise.board(50);
enterprise.board(50);

enterprise2 = new Spaceship("Enterprise 2", 50);

enterprise3 = enterprise;
enterprise3 = new Spaceship("Enterprise 3", 500);

System.out.println(enterprise);
System.out.println(enterprise2);
```

Problema 6:

```
Spaceship Normandy, Andromeda;
Normandy = new Spaceship("Normandy", 30);
Andromeda = new Spaceship("Andromeda", 500);
Andromeda = Normandy;
Normandy.setShipName("SSV Normandy SR-1");
Normandy.board(10);
Andromeda.board(10);
Andromeda.setShipName("Andromeda ISS");
Andromeda.board(20);

System.out.println(Andromeda);
System.out.println(Normandy);
```

Problema 7

```
Spaceship Voyager1, Apollo;
Voyager1 = new Spaceship("Voyager 1", 5);
Apollo = new Spaceship("Apollo 11", 10);

Voyager1.board(3);
Voyager1.transferTo(Apollo);

Voyager1.board(5);
Voyager1.transferTo(Apollo);

Voyager1.board(2);
Voyager1.transferTo(Apollo);
System.out.println(Voyager1);
System.out.println(Apollo);
```

BONUS

Problema 1. Escribe un método de instancia público para la clase `Spaceship` llamado `equals` que compare el objeto que lo invoca contra un objeto recibido como parámetro de entrada. Si los dos objetos son idénticos (el contenido de sus variables de instancia es igual), deberá retornar TRUE. Si el contenido de sus variables de instancia es diferente, retornará FALSE. Tip: Revisa el método transferTo() de la clase Spaceship.

```
Spaceship nave1 = new Spaceship(“Nave1”, 10);
Spaceship nave2 = new Spaceship(“Nave2”, 20);
boolean flag = nave1.equals(nave2); //false
```

```
public boolean equals(Spaceship otherShip) {









}
```

Problema 2. Escribe un método público para la clase `Spaceship` llamado `clone`, que devuelva un nuevo objeto de la clase `Spaceship` con el mismo contenido que el objeto que la llama. Debe tener la siguiente firma:

```
Spaceship nave1 = new Spaceship(“Nave1”, 10);
Spaceship nave2 = nave1.clone();
```

```
public Spaceship clone( ) {









}
```