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;

}

}

Computer Science II – Prepa Tec Campus Eugenio Garza Lagüera  
Activity 6: Spaceship

**Problem 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); |  |
| 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(); |  |
| 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); |  |
| 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); |  |
|  |  |

|  |
| --- |
| 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); |

**Problem 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);