**package** cn.car.service;

**public** **interface** Car {

**void** move(String command);

**int** getPositionX();

**int** getPositionY();

String getOrientation();

}

**package** cn.car.service.impl;

**import** cn.car.service.Car;

**public** **class** CarImpl **implements** Car {

**private** **int** x = 1;

**private** **int** y = 1;

**private** String orientation = "N";

**public** **void** move(String command) {

**if** (command != **null** && !"".equals(command)) {

**switch** (command) {

**case** "N":

orientation = "N";

**break**;

**case** "S":

orientation = "S";

**break**;

**case** "E":

orientation = "E";

**break**;

**case** "W":

orientation = "W";

**break**;

**case** "go":

**if** (orientation.equals("N")) {

y++;

}**else** **if** (orientation.equals("S")) {

y--;

}**else** **if** (orientation.equals("E")) {

x++;

}**else** **if** (orientation.equals("W")) {

x--;

}

**break**;

**default**:

**break**;

}

}

}

**public** **int** getPositionX() {

**return** x;

}

**public** **int** getPositionY() {

**return** y;

}

**public** String getOrientation() {

**return** orientation;

}

}

package cn.car.drive;

import java.util.Scanner;

import cn.car.service.Car;

import cn.car.service.impl.CarImpl;

public class TestDrive {

public static void main(String[] args) {

Car car = new CarImpl();

String[][] park = new String[4][4];

for(int i =0 ;i<4;i++){

for(int j =0 ;j<4;j++){

System.out.print("\* ");

park[i][j] = "\*";

}

System.out.println();

}

int x = 1;

int y = 1;

while(true){

Scanner sc = new Scanner(System.in);

System.out.println("input command:");

String command = sc.nextLine();

if (command.equals("go")) park[3-(y-1)][x-1] = "\*";

car.move(command);

x = car.getPositionX();

y = car.getPositionY();

if (x < 1 || x >4 || y < 1 ||y > 4) {

throw new RuntimeException("overstep the boundary!!");

}

System.out.println("position:"+"("+x+","+y+")"+"orientation:"+car.getOrientation());

park[3-(y-1)][x-1] = "C";

for(int i =0 ;i<4;i++){

for(int j =0 ;j<4;j++){

System.out.print(park[i][j]+"");

}

System.out.println();

}

}

}

}

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