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\* Class:Booking ExPrj Pg.n/a Author: Yin Linhai

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\* A program which allows you to book seats but only if they aren’t already booked

\* (When I ran some of the exception tests it would start looping without asking for an input

\* I narrowed it down to an error in the Scanner class or System.in in which it would keep the previous

\* input. The exceptions did work before but aren’t as of now, and I’ve rewrote this program a few

\* times to try and fix it.

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\* Course:Computer Science 201Teacher:Mr Blakey

\* School:Sir Winston Churchill High School, Calgary, Alberta, Canada

\* Language: Java SE 7.0Target Operating System: Java Virtual Machine

\* System:Intel Celeron 3GHz running under Windows 7 IDE: Eclipse 4.2

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# Seats class

**package** booking;

**public** **class** Seats {

**public** Seats (**int** rows, **int** columns) {

**try** {

seats = **new** **int**[rows][columns];

}

**catch**(RuntimeException e) {

**throw** e;

}

}

**public** **void** book(**int** row, **int** column) {

**try** {

**if**(seats[seats.length-row][column-1] != 1) {

seats[seats.length-row][column-1] = 1;

System.*out*.println("The seat " + row + "," + column + " has been succesfully booked");

} **else** {

System.*out*.println("The seat has already been booked");

}

}

**catch**(ArrayIndexOutOfBoundsException e) {

System.*out*.println("That seat doesn't exist");

**throw** e;

}

}

**public** **void** printSeats() {

**for**(**int** row = 0; row<seats.length; row++) {

**for**(**int** c = 0; c<seats[row].length; c++) {

System.*out*.print(seats[row][c]);

}

System.*out*.println();

}

}

**public** **int**[][] seats;

}

# Same class (was renamed due to System.in, and System.out errors)

**package** booking;

**import** java.util.Scanner;

**public** **class** Same {

**public** **static** **void** main(String[] args) {

//initiate variables

**int** rows = 0,columns = 0;

**boolean** a = **true**, b = **true**;

**boolean** run = **true**;

Scanner scan = **new** Scanner(System.*in*);

//loop for number of rows

**while**(a) {

System.*out*.println("How many rows are there?");

//try block

**try** {

rows = scan.nextInt();

**if** (rows>0) {

//to end the loop

a = **false**;

} **else** {

System.*out*.println("Please choose a positive integer");

}

}

//if the input isn't an integer

**catch**(RuntimeException e) {

String err = scan.nextLine();

System.*out*.println("Please enter an integer.");

}

}

//loop for number of columns

**while**(b) {

System.*out*.println("How many columns are there?");

//try block

**try** {

columns = scan.nextInt();

**if** (columns>0) {

//to end the loop

b = **false**;

} **else** {

System.*out*.println("Please choose a positive integer");

}

}

//if the input isn't an integer

**catch**(RuntimeException e) {

String err = scan.nextLine();

System.*out*.println("Please enter an integer.");

}

}

//build seats for booking

Seats seat = **new** Seats(rows, columns);

//menu loop

**while**(run) {

**int** input = 0;

//ask what to do

System.*out*.println("What would you like to do?");

System.*out*.println("1. Book\n2. See booked seats\n3. Quit");

**try** {

input = scan.nextInt();

}

**catch**(RuntimeException e) {

String err = scan.nextLine();

}

**if**(input==1) {

//book a seat

**boolean** r = **true**;

**int** row, column;

//loop for menu

**while**(r) {

**try**{

//ask for row to be booked

System.*out*.println("What row would you like to book?");

System.*out*.println("type q if you would like to stop");

row = scan.nextInt();

//check if the program should quit

**if** (row>0) {

//ask for column to be booked

System.*out*.println("What column would you like to book?");

System.*out*.println("type q if you would like to stop");

column = scan.nextInt();

//check if program should quit

**if** (column>0) {

//book seat

seat.book(row, column);

}

}

}

//to catch an array out of bound error

**catch**(RuntimeException e) {

String err = scan.nextLine();

//end loop

r = **false**;

}

}

//print out the seats

} **else** {

**if**(input==2) {

//print seats

seat.printSeats();

//end menu loop

} **else** {

**if**(input==3) {

run = **false**;

//ask for a proper selection

} **else** {

System.*out*.println("Please choose from one of the selections");

}

}

}

}

scan.close();

}

}

**Output:**

How many rows are there?

q

Please enter an integer.

How many rows are there?

-1

Please choose a positive integer

How many rows are there?

0

Please choose a positive integer

How many rows are there?

2

How many columns are there?

2

What would you like to do?

1. Book

2. See booked seats

3. Quit

1

What row would you like to book?

type q if you would like to stop

-1

What row would you like to book?

type q if you would like to stop

2

What column would you like to book?

type q if you would like to stop

2

The seat 2,2 has been succesfully booked

What row would you like to book?

type q if you would like to stop

q

What would you like to do?

1. Book

2. See booked seats

3. Quit

2

01

00

What would you like to do?

1. Book

2. See booked seats

3. Quit

s

Please choose from one of the selections

What would you like to do?

1. Book

2. See booked seats

3. Quit

3