Work on project. Stage 4/5: Menu, please!

Project: Cinema Room Manager

📊 Medium 🕐 31 minutes ❓

Description

The theatre is getting popular, and the customers started complaining that it's not practical that the program stops after buying one ticket. Let's add a menu that will allow them to buy tickets and display the current state of the seating arrangement when needed.

Objectives

At the start, your program should read two positive integer numbers that represent the number of rows and seats in each row. Then, it should print a menu with the following three items:

- `Show the seats` should print the current seating arrangement. The empty seats should be marked with an `S` symbol, and taken seats are marked with a `B` symbol.
- `Buy a ticket` should read the seat coordinates from the input and print the ticket price like in the previous stage. After that, the chosen seat should be marked with a `B` when the item `Show the seats` is called.
- `Exit` should stop the program.

Example

The greater-than symbol followed by a space (`>`) represents the user input. Note that it's not part of the input.

5 / 5 Prerequisites

- ✓ Switch statement — In project `7🔧` ⌄
- ✓ Declaring a method — In project `6🔧` ⌄
- ✓ The main method — In project `6🔧` ⌄
- ✓ Functional decomposition — In project `6🔧` ⌄
- ✓ Arrays as parameters — In project `5🔧` ⌄

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```
Enter the number of rows:
> 7
Enter the number of seats in each row:
> 7

1. Show the seats
2. Buy a ticket
0. Exit
> 1

Cinema:
  1 2 3 4 5 6 7
1 S S S S S S S
2 S S S S S S S
3 S S S S S S S
4 S S S S S S S
5 S S S S S S S
6 S S S S S S S
7 S S S S S S S

1. Show the seats
2. Buy a ticket
0. Exit
> 2

Enter a row number:
> 4
Enter a seat number in that row:
> 5
Ticket price: $10

1. Show the seats
2. Buy a ticket
0. Exit
> 1

Cinema:
  1 2 3 4 5 6 7
1 S S S S S S S
2 S S S S S S S
3 S S S S S S S
4 S S S S B S S
5 S S S S S S S
6 S S S S S S S
7 S S S S S S S

1. Show the seats
2. Buy a ticket
0. Exit
> 2

Enter a row number:
> 6
Enter a seat number in that row:
> 6
Ticket price: $10

1. Show the seats
2. Buy a ticket
0. Exit
> 1

Cinema:
  1 2 3 4 5 6 7
1 S S S S S S S
2 S S S S S S S
3 S S S S S S S
4 S S S S B S S
5 S S S S S S S
6 S S S S S B S
7 S S S S S S S

1. Show the seats
2. Buy a ticket
0. Exit
> 0
```

See hint

↓ Write a program

Code Editor   IDE

Java

```java
package cinema;
import java.util.*;
public class Cinema {

    public static void main(String[] args) {
        int choice;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the number of rows:");
        int row = sc.nextInt();
        System.out.println("Enter the number of seats in each row:");
        int col = sc.nextInt();
        char[][] array = new char[row][col];
        initialize(array);
        do{
            System.out.println("1. Show the seats\n2. Buy a ticket\n0. Exit");
            choice = sc.nextInt();
            if(choice == 0){
                break;
            }
            else if(choice == 1){
                printArray(array);
            }
            else if(choice == 2){
                System.out.println("\nEnter a row number:");
                int crow = sc.nextInt();
                System.out.println("Enter a seat number in that row:");
                int ccol = sc.nextInt();
                getInput(array, crow, ccol);
                System.out.print("\nTicket price: ");
                if(row * col <= 60){
                    System.out.println("$"+ 10);
                }
                else{
                    if((row/2) >= crow)
                        System.out.println("$"+10);
                    else
                        System.out.println("$"+8);
                }
            }
        } while(true);

    }

    public static void initialize(char[][] array){
        for(int i = 0; i < array.length; i++){
            for(int j =0; j < array[i].length; j++){
                array[i][j] = 'S';
            }
        }
    }

    public static void getInput(char[][] array, int row, int col){
        array[row - 1][col - 1] = 'B';
    }

    public static void printArray(char[][] array){
        System.out.println("\nCinema:");
        System.out.print("  ");
        for(int i = 0; i < array[0].length; i++){
            System.out.print((i+1) + " ");
        }
        System.out.println();
        for(int i = 0; i < array.length; i++){
            System.out.print((i+1)+" ");
            for(int j =0; j < array[i].length; j++){
                System.out.print(array[i][j] +" ");
            }
            System.out.println();
        }
    }
}
```

✓ **Correct.**

Your practice is really paying off. Well done!

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