Exercise

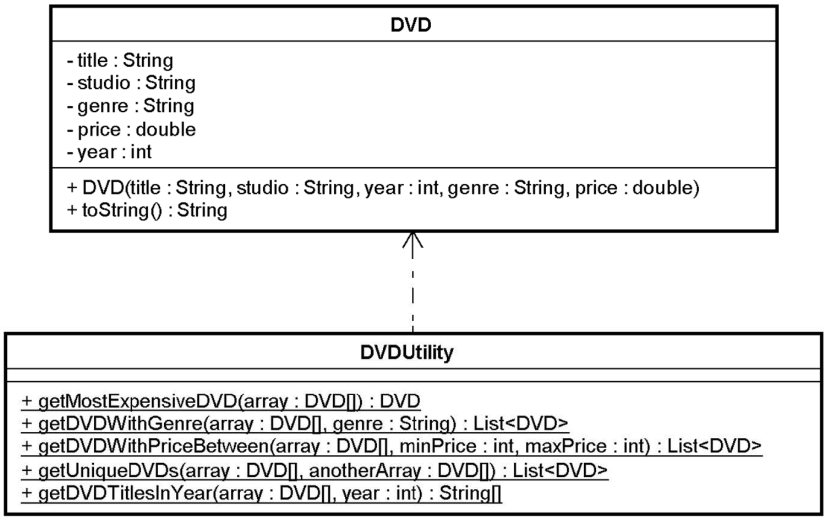
Resource: http://blue.smu.edu.sg/2d-resource.zip

1. Write the following `Adder` program. This program will add up all numbers in the command argument list. Non-numeric inputs will be ignored.

```
C:\array2> java Adder 8 2 abc 4
8 + 2 + 4 = 14

C:\array2> java Adder 1 a 5 4 abc 4
1 + 5 + 4 + 4 = 14
```

2. Consider the following class diagram:



Write the `DVDUtility` class.

a. `GetMostExpensiveDVD`: returns the most expensive in the parameter `array`
b. `getDVDWithGenre`: returns all the `DVD` objects in the parameter `array` with the specified `genre`.
c. getDVDWithPriceBetween: returns all the `DVD` objects in the parameter array with at least `minPrice` and not exceeding `maxPrice`.
d. `getUniqueDVDs`: returns all the `DVD` objects in the parameter `array` that is not found in `anotherArray`, vice versa. A DVD is uniquely identified by its title. Note: You may find the `asList` method of the Arrays class useful.
e. `getDVDTitlesInYear`: returns all the titles of `DVD` that are launched in the specified `year`.

The output of `DVUtiltityTest` is as follows:

```
1. GetMostExpensiveDVD:
test with null parameter: null
test empty array parameter: null
test with data: [title=Walking Dead: The Complete 4th Season (Blu-ray/ Limited Edition),
studio=Anchor Bay, genre=TV Classics, price=129.99, year=2013]

2. getDVDWithGenre
null dvd:[]
null genre:[]
Comedy dvds: 12
Action/Adventure dvds: 3
Musical dvds: 1
```

```
2. getDVDWithPriceBetween
number of DVDs (10 <= price < 20): 37

2. getUniqueDVDs
null parameter: 98
two arrays: [[title=Understanding Revelation In 60 Minutes, studio=Harvest House Publishers,
genre=Special Interest, price=19.99, year=2012], [title=Under The Skin (2013/ Blu-ray),
studio=Lions Gate, genre=SciFi, price=24.99, year=2013], [title=Understanding Wood,
studio=Popular Woodworking Books, genre=Special Interest, price=29.99, year=2014],
[title=Untold History Of The United States, Part 3: Reagan, Bush, Clinton, Bush, Obama (Blu-
ray), studio=Warner Brothers, genre=Documentary, price=19.98, year=2012]]

2. getDVDTitlesInYear
[]
[Web Wargame Toolkit (Book w/ DVD)]
```

3. Implement the following `Minesweeper` class.

Minesweeper
+ board : char[][]
+ Minesweeper(numRows : int, numColumns : int, numBombs : int) - countBombs() : void - placeBombs(numBombs : int) : void + toString() : String

   a. The constructor will initialize the board and invoke the `placeBombs` and `countBombs` methods.
   b. The placeBombs method will place the specified numBombs randomly on the board.
   c. The countBombs method will count the specified number of bombs around the cell if the cell does not contains a bomb, and place the number in the cell. An example is show below

B		
	2	
		B

The sample output of `MinesweeperTest` is as follows:

```
-|-|1|1|1|
-|-|2|B|2|
-|-|2|B|2|
-|-|1|1|1|
```

Note:

1. If you have never play before Minesweeper, do have a game LEGALLY in class using this link: http://minesweeperonline.com/