Activity 3
Due: 10:30pm, Monday, June 24th, 2019

Requirements
- This is an individual assignment.
- Please use meaningful name for your variables and functions
- Try to reuse your solutions as much as possible.

Problem0

- The Java class called Holidayis started below. An object of class Holidayrepresents a holiday during the year. This class has three instance variables:
- name,which is a String representing the nameoftheholiday
- day,which is an int representing the day of the month of the holiday
- month, which is a String representing the month the holiday is in

```
public class Holiday {
 private String name;
 private int day; private
 String month;
// your code goes here
}
```

- Write a constructor for the class `Holiday`, which takes a `String` representing the name, an `int` representing the day, and a `String` representing the month as its arguments, and sets the class variables to these values.
- Write a method `inSameMonth`, which compares two instances of the class `Holiday,` and returns the Boolean value `true` if they have the same `month`, and `false` if they do not.
- Write a method `avgDate` which takes an array of base type `Holiday` as its argument, and returns a `double` that is the average of the `day` variables in the `Holiday` instances in the array. You may assume that the array is full (i.e. does not have any `null` entries).
- Write a piece of code that creates a `Holiday` instance with the name "Independence Day", with the day "4", and with the month "July".

Problem1

- The class Movie is started below. An instance of class Movie represents a film. This class has the following three class variables:
- `title`, which is a `String` representing the title of themovie
- `studio`, which is a `String` representing the studio that made the movie
- `rating`, which is a `String` representing the rating of the movie (i.e. PG-13, R, etc)

```
public class Movie {
     private String title;
     private String
     studio; private
     String  rating;

     // your code goes  here
}
```

- Write a constructor for the class `Movie`, which takes a `String` representing the title of the movie, a `String` representing the studio, and a `String` representing the rating as its arguments, and sets the respective class variables to these values.

- Write a second constructor for the class Movie, which takes a `String` representing the title of the movie and a `String` representing the studio as its arguments, and sets the respective class variables to these values, while the class variable `rating` is set to "PG".

- Write a method `getPG`, which takes an array of base type `Movie` as its argument, and returns a new array of only those movies in the input array with a rating of "PG". You may assume the input array is full of `Movie` instances. The returned array need not be full.

- Write a piece of code that creates an instance of the class `Movie` with the title "Casino Royale", the studio "Eon Productions", and the rating "PG-13".