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Student Name = Jitong Ding

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CSE017 Grading sheet for Jitong Ding

Homework Assignment Play

Total points                          maximum: 100

Completeness: All class/methods included (40)   [  40  ]

Compilation: Program compiles (20)              [  20  ]

Execution: Program executes properly (30)       [  29  ]

Style: Program obeys style rules (10)           [  10  ]

Subtotal                                           99

Late Penalty                                    [      ]

Total Points                                       99


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```
/**
CSE 17
Jitong Ding
jid221
Homework #2    Deadline: September 11, 2018
Program:  A class for theatrical plays
*/
import java.util.Scanner;

/** A class can represent aspecific production in the theaters season and
  * can print out the total revenue of the theater's seson*/
public class Play{

  /** Date field*/
  /** A data field named title for the name of the play. */
  String title;
  /** A data field named director for the director of the play. */
  String director;
  /**A data field named dateList of the performed dates */
  String[] dateList;

  /** Construct a new Play with title, director and dateList[] */
  public Play(String aName, String aDirector, String[] aDateList){
    title = aName;
    director = aDirector;
    dateList = aDateList;
    }

  /** Construct a new Play with title and dateList[] */
  public Play(String playName, String[] playDateList){
    title = playName;
    dateList = playDateList;
    director = "TBD";
  }

  /** An instance method return the length of the dateList[] */
  public int getNumberOfDates(){
    return dateList.length;
  }

  /** Return the total revenue based on all of the plays and the percentage of t
tickets sold */
  public static double estimateRevenue(Play[] playsList, double ticketPrice, int
 seatNumbers, double ticketsSell){
    int sum = 0;
    for(int i =0; i< playsList.length; ++i){
      sum += playsList[i].dateList.length;
    }

    double revenue = seatNumbers * ticketsSell * ticketPrice * sum;
    return revenue;
  }

  /** Print a table of the total revenue based on the different percentage ticke
ts sold */
  public static void printRevenueTable(Play[] aPlaysList, double aTicketsPrice,
int aSeatNumbers){
    System.out.println("Seats Sold   Revenue");
    System.out.println("---------- ----------");
    int seats = aSeatNumbers;
    int i =70;
    /** A while loop to print the revenue table */
    while(i<=100){
      if(i<100){
        System.out.printf(" %d ( %d%%)\t %6.2f\n", seats*i/100, i,
                          estimateRevenue(aPlaysList, aTicketsPrice, seats, (dou
ble)i/100));
      }
      else {
        System.out.printf(" %d (%d%%)\t %6.2f\n", seats*i/100, i,
                          estimateRevenue(aPlaysList, aTicketsPrice, seats, (dou
ble)i/100));
      }
```



```
        i += 5;

    }
  }

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

    /** Creat five Play Objects */
    Play[] show = new Play[5];
    show[0] = new Play("The Royal Family", "Robert Callan Adams",
      new String[]{"1/31", "2/1", "2/7", "2/8", "2/9", "2/13", "2/14", "2/15", "2/16"});
    show[1] = new Play("La Cage aux Folles", "Brenda McGuire",
      new String[]{"3/28", "3/29", "4/4", "4/5", "4/6", "4/10", "4/11", "4/12", "4/13"})
;
    show[2] = new Play("To Kill a Mockingbird", "George Miller",
      new String[]{"5/30", "5/31", "6/6", "6/7", "6/8", "6/12", "6/13", "6/14" , "6/15"}
);
    show[3] = new Play("Annie Get Your Gun", "Mark Breiner",
      new String[]{"7/25", "7/26", "8/1", "8/2", "8/3", "8/7", "8/8", "8/9", "8/10"});
    show[4] = new Play("I Love You, You're Perfect, Now Change",
      new String[]{"9/26", "9/27", "10/3", "10/4", "10/5", "10/9", "10/11", "10/12", "10/
13"});

    /** Print a list of the title the plays with the number */
    for(int i=0; i<show.length; ++i){
      System.out.printf("%d:%s\n", i+1, show[i].title);
    }
    /** Create a scanner that takes scan from the standard input device */
    Scanner scan = new Scanner(System.in);

    /** Ask the user to enter the number of a play, and prints its director */
    System.out.println("Enter a show's number and I'll tell you the director:");
    int m = scan.nextInt();
    System.out.println(show[m-1].director);

    /** Ask the user to enter the number of a play, and prints its dateList[] */
    System.out.println();
    System.out.println("Enter a show's number and I'll tell you it's dates:");
    int n = scan.nextInt();
    /** A for loop to print the data in dateList */
    for (int j = 0; j< show[n-1].dateList.length; ++j){
      System.out.print(show[n-1].dateList[j]);
      if (j==show[n-1].dateList.length-1){
        System.out.print("\n\n");
      }
      else{
          System.out.print(",");
    }

    }

    int totalSeats = 160;

    /** Ask the user to enter the price of the play and print the revenue table
*/
    System.out.println("Enter a ticket price:");
    double p = scan.nextDouble();
    printRevenueTable(show, p, totalSeats);



}
}
```

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############ Compiled Result ###############


Source Code Compilation:



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############ Execution Result ##############
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##########################################
Test1 output - testOutput1.txt


1:The Royal Family
2:La Cage aux Folles
3:To Kill a Mockingbird
4:Annie Get Your Gun
5:I Love You, You're Perfect, Now Change
Enter a show's number and I'll tell you the director:
TBD

Enter a show's number and I'll tell you it's dates:
3/28, 3/29, 4/4, 4/5, 4/6, 4/10, 4/11, 4/12, 4/13

Enter a ticket price:
Seats Sold   Revenue
-----------  ----------
 112 ( 70%)       110880.00
 120 ( 75%)       118800.00
 128 ( 80%)       126720.00
 136 ( 85%)       134640.00
 144 ( 90%)       142560.00
 152 ( 95%)       150480.00
 160 (100%)       158400.00


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Test2 output - testOutput2.txt


1:The Royal Family
2:La Cage aux Folles
3:To Kill a Mockingbird
4:Annie Get Your Gun
5:I Love You, You're Perfect, Now Change
Enter a show's number and I'll tell you the director:
George Miller

Enter a show's number and I'll tell you it's dates:
7/25, 7/26, 8/1, 8/2, 8/3, 8/7, 8/8, 8/9, 8/10

Enter a ticket price:
Seats Sold   Revenue
-----------  ----------
 112 ( 70%)       83563.20
 120 ( 75%)       89532.00
 128 ( 80%)       95500.80
```

Revenue values are formatted offset to the right (-1)


```
136 ( 85%)       101469.60
144 ( 90%)       107438.40
152 ( 95%)       113407.20
160 (100%)       119376.00
```