

Lab 5

1.

```
Xeria.10.py lab5_hotel.java lab5_population.java Xeria.04.py
1  import java.util.Scanner;
2
3  public class lab5_hotel{
4      public static void main(String[] args){
5          Scanner keyboard = new Scanner(System.in);
6          int numOffFloors;
7          double numOfRooms, numOfOccupied, finalRooms = 0, finalOccupied = 0;
8          double occupiedRate;
9
10         System.out.print("Please enter the number of floors in this hotel.\n>>");
11         numOffFloors = keyboard.nextInt();
12
13         while (numOffFloors < 1){
14             System.out.print("Please enter a number that is not less than 1.\n>>");
15             numOffFloors = keyboard.nextInt();
16         }
17
18         for(int i=1; i <= numOffFloors; i++){
19             System.out.print("Please enter the number of rooms floor " + i + " has.\n>>");
20             numOfRooms = keyboard.nextDouble();
21             while(numOfRooms < 10){
22                 System.out.print("Please enter a number greater that 9.\n>>");
23                 numOfRooms = keyboard.nextDouble();
24             }
25
26             finalRooms += numOfRooms;
27
28             System.out.print("Please enter the number of occupied rooms floor " + i + " has.\n>>");
29             numOfOccupied = keyboard.nextDouble();
30             finalOccupied += numOfOccupied;
31             System.out.println();
32         }
33
34         occupiedRate = finalOccupied / finalRooms;
35
36         System.out.printf("There are %.0f rooms, %.0f are occupied. So %.2f is the rate of occupancy.\n",
37             finalRooms, finalOccupied, occupiedRate);
38     }
39 }
```

```
(xenial)mlgskelly@localhost:~/Scripting/Java/Labs$ java lab5_hotel
Please enter the number of floors in this hotel.
>>2
Please enter the number of rooms floor 1 has.
>>11
Please enter the number of occupied rooms floor 1 has.
>>8

Please enter the number of rooms floor 2 has.
>>15
Please enter the number of occupied rooms floor 2 has.
>>6

There are 26 rooms, 14 are occupied. So 0.54 is the rate of occupancy.
(xenial)mlgskelly@localhost:~/Scripting/Java/Labs$
```

2.

```
Xeria.10.py lab5_hotel.java lab5_population.java Xeria.04.py
1 import java.util.Scanner;
2
3 public class lab5_population{
4     public static void main(String[] args){
5         Scanner keyboard = new Scanner(System.in);
6
7         double populationIncrease, dailyPop, percentOfIncrease;
8         int startingOrgNumber = 0, numberOfDays = 0;
9
10        System.out.print("Please enter the starting number of organisms.\n>>");
11        startingOrgNumber = keyboard.nextInt();
12        while (startingOrgNumber < 2){
13            System.out.print("Please enter a number bigger than 1.\n>>");
14            startingOrgNumber = keyboard.nextInt();
15        }
16
17        System.out.print("Please enter the daily population increase.\n%");
18        populationIncrease = keyboard.nextDouble();
19        while(populationIncrease < 0){
20            System.out.print("Please enter only positive percentages.\n%");
21            populationIncrease = keyboard.nextDouble();
22        }
23
24        System.out.print("Please enter the number of days that the population will increase.\n>>");
25        numberOfDays = keyboard.nextInt();
26        while (numberOfDays < 1){
27            System.out.print("Please enter a number bigger than 0.\n>>");
28            numberOfDays = keyboard.nextInt();
29        }
30        dailyPop = startingOrgNumber;
31        percentOfIncrease = populationIncrease/100;
32
33        int currentDay = 0;
34        for (int i=0; i<=numberOfDays;i++){
35            currentDay++;
36            dailyPop += (percentOfIncrease * dailyPop);
37            System.out.println("Day " + currentDay + "\t\t" + dailyPop);
38        }
39    }
40 }
```

```
(xenial)mlgskelly@localhost:~/Scripting/Java/Labs$ java lab5_population
Please enter the starting number of organisms.
>>1
Please enter a number bigger than 1.
>>2
Please enter the daily population increase.
%50
Please enter the number of days that the population will increase.
>>4
Day 1          3.0
Day 2          4.5
Day 3          6.75
Day 4         10.125
Day 5         15.1875
(xenial)mlgskelly@localhost:~/Scripting/Java/Labs$
```