

CS 1073

FR03A

Assignment #4

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Section 1

```
/**
@author Ethan McCarthy 3573807
*/

import java.util.Scanner;
public class TempApp{
    public static void main(String[] args){

        Scanner scan = new Scanner(System.in); //initialize scanner
        System.out.println("Input your preferred temperature value. (Integers
Only)");
        int prefTemp = scan.nextInt();
        //ask user for preferred temp and record and store it

        System.out.println("Now start putting in the outside temperature
values.");
        int tempIn = scan.nextInt();
        //starts the input cycle

        //initialize all of the variables that will be used
        int highTemp = tempIn;
        int lowTemp = tempIn;
        int range = 0;
        int count = 0;
        int ave = 0;

        //if an input is higher than 100 the program stops taking inputs
        while (tempIn <= 100){
            ave += tempIn;
            if((tempIn - prefTemp) <= 2 && (tempIn - prefTemp) >= -2){
                //math to see if the input is within 2 degrees of the preferred
                range++;
            }

            if (tempIn > highTemp){
                //takes the highest temp
                highTemp = tempIn;
            }

            if (tempIn < lowTemp){
                //takes the lowest temp
                lowTemp = tempIn;
            }
        }
    }
}
```

```

        count++; //count up
        tempIn = scan.nextInt(); //take next input
    }

    System.out.println("Your Temperature report:\n" + count + " temperatures
total\n" + range + " temperatures within the preferred range");
    //temp report

    //shows the conservative average if there is 3 or more temps
    if (count >= 3){
        float consAve = (ave - highTemp - lowTemp)/ (count - 2);
        System.out.println("Conservative average temperature: " + consAve);
    }
    else {
        System.out.println("Not enough data to calculate the conservative
average.");
    }

}

}

```

Section 2

```
h9e3r@id414m19:lab4
File Edit View Search Terminal Help
[h9e3r@id414m19 ~]$ cd CS\ 1073/l
lab1/ lab3/ lab4/
[h9e3r@id414m19 ~]$ cd CS\ 1073/lab4
[h9e3r@id414m19 lab4]$ java
TempApp.class TempApp.java
[h9e3r@id414m19 lab4]$ java TempApp
Input your preferred temperature value. (Integers Only)
10
Now start putting in the outside temperature values.
20
30
10
12
11
9
3
5
26
101
Your Temperature report:
9 temperatures total
4 temperatures within the preferred range
Conservative average temperature: 13.0
[h9e3r@id414m19 lab4]$
```

```
h9e3r@id414m19:lab4
File Edit View Search Terminal Help
4 temperatures within the preferred range
Conservative average temperature: 13.0
[h9e3r@id414m19 lab4]$ java TempApp
Input your preferred temperature value. (Integers Only)
20
Now start putting in the outside temperature values.
1
23
25
18
14
15
17
1
5
7
8
18
101
Your Temperature report:
12 temperatures total
2 temperatures within the preferred range
Conservative average temperature: 12.0
[h9e3r@id414m19 lab4]$
```

```
h9e3r@id414m19:lab4
File Edit View Search Terminal Help
14
15
17
1
5
7
8
18
101
Your Temperature report:
12 temperatures total
2 temperatures within the preferred range
Conservative average temperature: 12.0
[h9e3r@id414m19 lab4]$ java TempApp
Input your preferred temperature value. (Integers Only)
18
Now start putting in the outside temperature values.
1
101
Your Temperature report:
1 temperatures total
0 temperatures within the preferred range
Not enough data to calculate the conservative average.
[h9e3r@id414m19 lab4]$
```

Section 3

```
/**
@author Ethan McCarthy 3573807
*/

import java.util.Scanner;

public class ArcheryApp{
    public static void main(String[] args){
        Scanner scan = new Scanner(System.in);
        int score = 150;

        System.out.println("Did your arrow land within the black circle?
(yes/no)");
        String input = scan.nextLine();

        while (!input.equals("no") && !input.equals("yes")){
            System.out.println("Invalid input, try using \'yes\' or \'no\'.");
            input = scan.nextLine();
        }

        System.out.println("What was the arrow made out of?");
        String material = scan.nextLine();

        System.out.println("How far away from the red bullseye did you hit? (in
cm)");
        double bullseyeDistance = scan.nextDouble();

        System.out.println("How far away were you standing from the target. (in
meters)");
        double personDistance = scan.nextDouble();

        if (bullseyeDistance > 200){
            score -= 100;
        }
        else if(bullseyeDistance <= 200 && bullseyeDistance >= 100){
            score -= 50;
        }
        else if (bullseyeDistance < 50){
            score += 50;
        }
    }
}
```

```
        if (personDistance > 20 && (!material.equals("carbon")) &&
bullseyeDistance < 200){
            score += 200;
        }

        if(material.equals("wood") || material.equals("fibreglass")){
            score += 50;
        }

        System.out.println("Your score is: " + score);

        if(score < 100){
            System.out.println("You need to improve...");
        }
        else if(score >= 100 && score < 200){
            System.out.println("Your score was OK. Give it another shot!");
        }
        else if (score >= 200 && score < 300){
            System.out.println("Good job! But there is room for improvement
still.");
        }
        else{
            System.out.println("Great job!");
        }
    }
}
```

Section 4

CA. Command Prompt

```
Microsoft Windows [Version 10.0.19044.2006]
(c) Microsoft Corporation. All rights reserved.

C:\Users\barym>cd C:\Users\barym\Desktop\CS 1073\lab4

C:\Users\barym\Desktop\CS 1073\lab4>javac ArcheryApp.java

C:\Users\barym\Desktop\CS 1073\lab4>java ArcheryApp
Did your arrow land within the black circle? (yes/no)
yes
What was the arrow made out of?
wood
How far away from the red bullseye did you hit? (in cm)
250
How far away were you standing from the target. (in meters)
15
Your score is: 100
Your score was OK. Give it another shot!
```

CA. Command Prompt

```
C:\Users\barym\Desktop\CS 1073\lab4>java ArcheryApp
Did your arrow land within the black circle? (yes/no)
helo
Invalid input, try using 'yes' or 'no'.
hello
Invalid input, try using 'yes' or 'no'.
no
What was the arrow made out of?
carbon
How far away from the red bullseye did you hit? (in cm)
300
How far away were you standing from the target. (in meters)
10
Your score is: 50
You need to improve...

C:\Users\barym\Desktop\CS 1073\lab4>
```

CA. Command Prompt

```
C:\Users\barym\Desktop\CS 1073\lab4>java ArcheryApp
Did your arrow land within the black circle? (yes/no)
yes
What was the arrow made out of?
fibreglass
How far away from the red bullseye did you hit? (in cm)
10
How far away were you standing from the target. (in meters)
50
Your score is: 450
Great job!

C:\Users\barym\Desktop\CS 1073\lab4>
```