Student Number: x23285508
Module Name: Software Development (HDSDEV_JAN24)
Week 4 Lab Submission

File - /Users/seanwelch/programming/Week4Lab/src/GuessingGame.java

```
 1 public class GuessingGame {
 2     private int userGuess;
 3     private int generatedNumber;
 4     private boolean result;
 5 
 6     // Getters
 7     public int getUserGuess(){
 8         return userGuess;
 9     }
10     public int getGeneratedNumber(){
11         return generatedNumber;
12     }
13     public boolean getResult(){
14         return result;
15     }
16 
17     // Setters
18     public void setUserGuess(int userGuess) {
19         if (userGuess > 0 && userGuess <= 20) {
20             this.userGuess = userGuess;
21         } else {
22             System.out.println("Invalid Guess, must be greater
   than 0 and less than 10.");
23         }
24     }
25 
26     public void setGeneratedNumber() {
27         this.generatedNumber = (int) (Math.random() * 10) + 1;
28     }
29 
30     // methods
31     public void checkResult() {
32         this.result = (this.userGuess == this.generatedNumber);
33     }
34 }
35 
```

File - /Users/seanwelch/programming/Week4Lab/src/GuessingGameApp.java

```java
import java.util.Scanner;

// instructor notes:
// compiled in terminal with : ❱ javac -d target src/GuessingGame.java src/GuessingGameApp.java
// run app with: ❱ java -cp target GuessingGameApp
public class GuessingGameApp {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        GuessingGame guessingGame = new GuessingGame();

        guessingGame.setGeneratedNumber();

        boolean correctGuess = false;
        final int maxAttempts = 3;

        System.out.println("Pick a random number between 1 and 10: ");

        for (int attempt = 1; attempt <= maxAttempts; attempt++) {
            System.out.println("Attempt " + attempt + " of " + maxAttempts);

            int userInput = scanner.nextInt();
            guessingGame.setUserGuess(userInput);

            guessingGame.checkResult();
            correctGuess = guessingGame.getResult();

            if (correctGuess) {
                System.out.println("Correct! You are the winner!");
                break;
            } else if (attempt < maxAttempts) {
                System.out.println("Incorrect, try again!");
            } else {
                System.out.println("Incorrect, you lose!");
            }
        }

        if (!correctGuess) {
            System.out.println("The correct number was: " + guessingGame.getGeneratedNumber());
        }
    }
}

```

File - /Users/seanwelch/programming/Week4Lab/src/TicketPrices.java

```java
public class TicketPrices {
    private int userAge;
    private int ticketPrice;
    private int numberTickets;
    private int totalPrice;

    // getters
    public int getUserAge(){
        return userAge;
    }

    public int getNumberTickets(){
        return numberTickets;
    }

    public int getTotalPrice(){
        computeTicketPrice();
        return totalPrice;
    }

    // setters
    public void setUserAge(int userAge){
        if (userAge >= 0) {
            this.userAge = userAge;
        } else {
            System.out.println("Invalid age input. Age cannot be negative.");
        }
    }

    public void setNumberTickets(int numberTickets){
        if (numberTickets > 0) {
            this.numberTickets = numberTickets;
        } else {
            System.out.println("Invalid number of tickets. Must be positive.");
        }
    }

    // computations
    public void computeTicketPrice() {
        ticketPrice = (userAge < 18) ? 10 : 15;
    }

    public void computeTotalPrice() {
        computeTicketPrice();
        totalPrice = ticketPrice * numberTickets;
    }
```

File - /Users/seanwelch/programming/Week4Lab/src/TicketPrices.java

```
47 }
48
```

File - /Users/seanwelch/programming/Week4Lab/src/TicketPricesApp.java

```java
import java.util.Scanner;

// instructor notes:
// compiled in terminal with: ❱ javac -d target src/TicketPrices.java src/TicketPricesApp.java
// run app with: ❱ java -cp target TicketPricesApp
public class TicketPricesApp {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        TicketPrices ticketPrices = new TicketPrices();

        System.out.println("Enter your age: ");
        int userAge = scanner.nextInt();
        ticketPrices.setUserAge(userAge);

        System.out.println("Enter number of ticket desired: ");
        int numberTickets = scanner.nextInt();
        ticketPrices.setNumberTickets(numberTickets);

        ticketPrices.computeTotalPrice();
        int totalPrice = ticketPrices.getTotalPrice();
        System.out.println("Total Price Due: €" + totalPrice);
    }
}
```