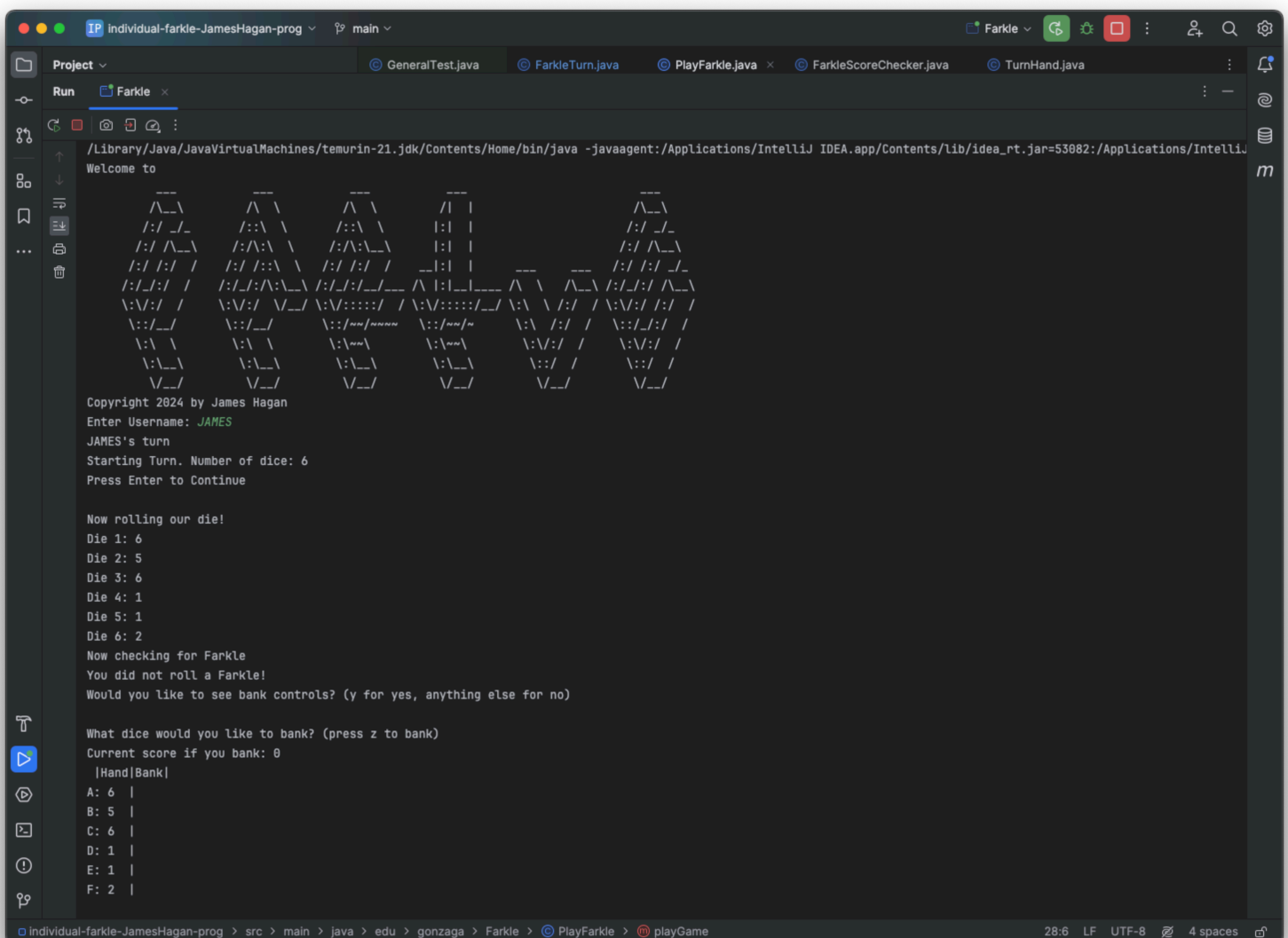


The goal of this program was to expand on the already existing Farkle program I had made. I did so by adding a new Title screen to the game, adding the ability to enter in a username, and the ability to preroll unleaded dice and gain higher scores. I also wrote more tests for my original program, to ensure that it works in all regards to it.

The general design that I went for in this program was very similar to the last project. It starts with the main function which calls an object of the class PlayFarkle, and calls the method playGame. It then displays the title screen and asks the player for a name. It then calls runTurn from the class FarkleTurn. This function then calls in other private functions from the class TurnHand in order to run-through the turn. These different functions set up the dice, print them, put them in the meld, and more. This turn loops in PlayFarkle until the user either quits or rolls a farkle.



```
individual-farkle-JamesHagan-prog  main
Project  Run  Farkle
GeneralTest.java  FarkleTurn.java  PlayFarkle.java  FarkleScoreChecker.java  TurnHand.java

/Library/Java/JavaVirtualMachines/temurin-21.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA.app/Contents/lib/idea_rt.jar=53082:/Applications/IntelliJ
Welcome to

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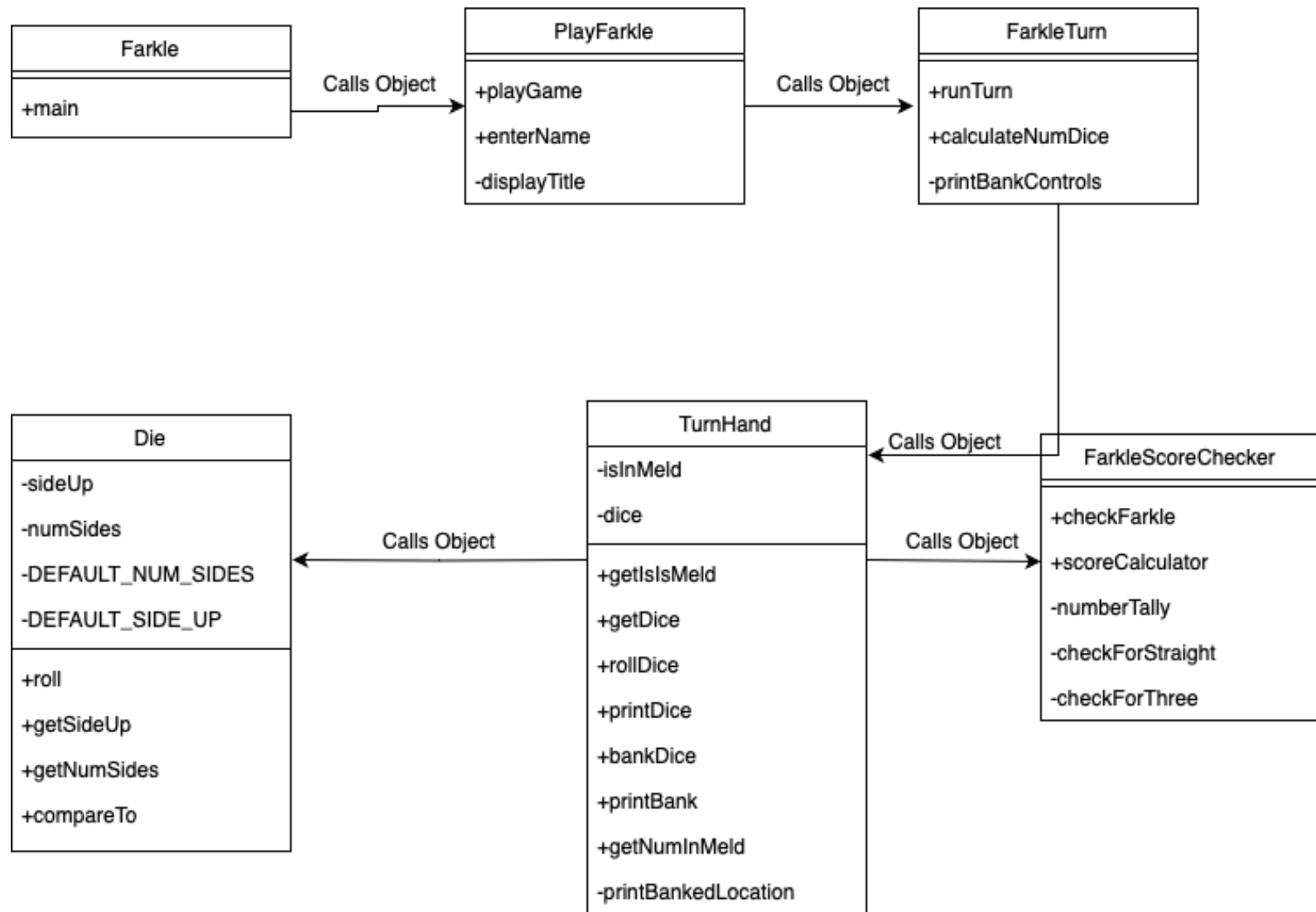
Copyright 2024 by James Hagan
Enter Username: JAMES
JAMES's turn
Starting Turn. Number of dice: 6
Press Enter to Continue

Now rolling our die!
Die 1: 6
Die 2: 5
Die 3: 6
Die 4: 1
Die 5: 1
Die 6: 2
Now checking for Farkle
You did not roll a Farkle!
Would you like to see bank controls? (y for yes, anything else for no)

What dice would you like to bank? (press z to bank)
Current score if you bank: 0
|Hand|Bank|
A: 6 |
B: 5 |
C: 6 |
D: 1 |
E: 1 |
F: 2 |

individual-farkle-JamesHagan-prog > src > main > java > edu > gonzaga > Farkle > PlayFarkle > playGame
28:6 LF UTF-8 4 spaces
```

One of the Tests that I think demonstrates a correct behavior for my program was the test bankTest. This test checks and makes sure the a die can be successfully moved into the meld. I think this is a very important function, as without this the game would be almost unplayable. By writing a test to check this functionality, I can make sure that it works and if I make any changes to how the meld works, I can check to make sure the functionality stays in place.



A major design issue I had was that most of my code was in a single class. This created a very convoluted design and made it very hard to debug. I address it by, as seen in the diagram, making more classes. I was able to create a new class called **TurnHand** that took a lot of functionality from **FarkleTurn** and reuse it. This made the code a lot easier to understand, and also allowed me to modify the functions to have no pass in values, and to just be called.

One thing I think I would do differently if I had more time would be to modify the attributes array I have in PlayFarkle. Instead of just being declared in the playGame function, I would make it an attribute of PlayFarkle. I could also modify it to hold the players name in the array as well, or make it a list of arrays for multiple players.