

AP Computer Science



Mr Hanley



Assignment: 1st Qtr Bonus Version: 1.0

Last Updated: 10/16/2013 8:25 PM

PNZ Game

Create a swing, gui based PNZ game

In the game of PNZ, one player thinks of a number consisting of 3 distinct digits. The other player tries to guess the numbers and receives the following feedback.

- **PPP** means that each digit is in the correct position, the player has guessed the number!!!
- Each **P** means that a digit is in correct position, without saying which digit that is
- Each **N** means that the digit is in the number, but it's not in the correct position
- A single **Z** means that there are no correct numbers

Assuming that the number is 123, here is the feedback from different guesses

Guess	Feedback
134	PN
213	PNN
143	PP
300	N
555	Z
123	PPP

So as not to provide too many cues, the P's always come before the N's in the output.

Write a program that plays this game with the user. The interface should have 3 window objects. A JTextField to enter in the guess. A JButton to register the guess. A JTextArea to give feedback. The results should be shown in a format like the table shown above.

Your program should have the following methods:

- void startNewGame() starts a new game when the user selects a button
- char randomDigit() returns a randomly generated digit between 0 and 9
- String randomString() returns the String representation of a number that has 3 unique randomly generated digits
- String evaluateGuess(String target, String result) takes the target String and the guess String and returns the appropriate evaluation String
- void displayResults(String guess, String result) takes the guess String and result String and adds a line to JTextArea

The user interacts with two buttons. The **program should handle invalid guesses** (Strings not having 3 distinct numbers) by displaying the error in an error box.

Rubric	
Works as specified	
Error Checking	
TOTAL	15

*Recursion*Linear Search*Binary Search*Grid World Case Study*File Processing *nlogn*Hangman*