

## UML Class Diagram

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+ GuessingGame
+ GuessingGame(int largestPossibleNumber, boolean difficulty)
+ GuessingGame(int largestPossibleNumber)
+ GuessingGame(boolean difficulty)
+ GuessingGame()
- setNumberToGuess(int number)
- setNumberOfGuesses(int number)
- setLargestPossibleNumber(int number)
- setEasyGame(boolean difficulty)
- computeMaxNumberOfGuesses()
- setMaximumNumberOfGuesses(int number)
- setCurrentMinimumRange(int min)
- setCurrentMaximumRange(int max)
- setGameState(int state)
- setGuessTooLow(boolean tooLow)
+ makeGuess(int guess)
+ hint()
+ quit()
+ toString()
+ getGameState()
+ getNumberToGuess()
+ getNumberOfGuesses()
+ getLargestPossibleNumber()
+ getMaximumNumberOfGuesses()
+ getCurrentMinimumRange()
+ getCurrentMaximumRange()
+ getGuessTooLow()
+ getEasyGame()

```

## Legend

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+ Public
- Private
Package
# Protected

```

Data Table - GuessingGame

Variable	Type	Purpose
EASY_GAME	boolean	This class constant will have the value true
DIFFICULT_GAME	boolean	This class constant will have the value false
DEFAULT_MAXIMUM_RANGE	int	This class constant will have the value 10
GAME_WON	int	This class constant holds an int value for the instance GameState
GAME_LOST	int	This class constant holds an int value for the instance variable gameState, this value must be different than GAME_WON
GAME_IN_PROGRESS	int	This class constant holds an int value for the instance variable gameState, this value must be different than GAME_WON and GAME_LOST
gameState	int	This instance variable holds the state of the game, which only allows GAME_WON, GAME_LOST, and GAME_IN_PROGRESS
numberToGuess	int	This field hosts the random number which the user is trying to guess
numberOfGuesses	int	This field hosts the number of guesses the user has made
largestPossibleNumber	int	The user will be guessing a number from 1 up to the number this field hosts
maximumNumberOfGuesses	int	This field hosts the number of maximum guesses a user is allowed to make
currentMinimumRange	int	This number is the largest guess made where it is too low
currentMaximumRange	int	This number is the smallest guess made where it is too high
guessTooLow	boolean	If this boolean is true, the guess was too low. If the boolean is false, the guess was too high
easyGame	boolean	If it is equal to EASY_GAME, it is an easy game. Same thing for DIFFICULT_GAME.

Data Table - GuessingGame

Variable	Type	Purpose
rand	Random	Random object
difficulty	boolean	The boolean determines the difficulty of the game
DEFAULT_MAXIMUM_RANGE	int	This class constant will have the value 10
largestPossibleNumber	int	The user will be guessing a number from 1 up to the number this field hosts

Data Table - GuessingGame

Variable	Type	Purpose
largestPossibleNumber	int	The user will be guessing a number from 1 up to the number this field hosts

Data Table - GuessingGame

Variable	Type	Purpose
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Variable	Type	Purpose
difficulty	boolean	The boolean determines the difficulty of the game

  

Data Table - GuessingGame		
Variable	Type	Purpose

  

Data Table - setNumberToGuess		
Variable	Type	Purpose
number	int	Number used to define random number

  

Data Table - setNumberOfGuesses		
Variable	Type	Purpose
number	int	Number used to define number of guesses

  

Data Table - setLargestPossibleNumber		
Variable	Type	Purpose
number	int	Number used to define upper bound in random number

  

Data Table - setEasyGame		
Variable	Type	Purpose
difficulty	boolean	Boolean used to determine the difficulty of the game

  

Data Table - computeMaxNumberOfGuesses		
Variable	Type	Purpose
pong	int	return value for method
mathWork	int	Used as largest possible number when determining number of guesses for high difficulty
loops	int	number of loops the function iterated to get the number of guesses

  

Data Table - setMaximumNumberOfGuesses		
Variable	Type	Purpose
number	int	Number used to define maximum number of guesses

  

Data Table - setCurrentMinimumRange		
Variable	Type	Purpose
min	int	When a guess is made, this determines if it is the new minimum range for the hints

  

Data Table - setCurrentMaximumRange		
Variable	Type	Purpose
max	int	When a guess is made, this determines if it is the new maximum range for the hints

  

Data Table - setGameState		
Variable	Type	Purpose
state	int	Determines if the game is in progress, won, or lost

  

Data Table - setGuessTooLow		
Variable	Type	Purpose
tooLow	boolean	True or false depending on if the guess was too low or not

  

Data Table - makeGuess		
Variable	Type	Purpose
guess	int	The user's guess

  

Data Table - hint		
Variable	Type	Purpose
pong	String	String that is returned to the user

  

Data Table - toString		
Variable	Type	Purpose
pong	String	Prints statistics of current session