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Homework 2: Guessing your number Pseudocode

Top: An algorithm to guess a number, chosen by the user, between 0 and 100 (inclusive). Have the code count how many guesses it took to find the user’s number.

Import scanner

Create a main method

Print out “Think of a number between 1 and 100. I'll try to guess it!” to inform the user on the range to pick a number from.

Initialize values

* Int min = 1 sets the bottom of the range of possible numbers
* Int max = 100 sets the top of the range of possible numbers
* Int guesses = 0 starts the counter for the number of guesses it took the code to figure out the user’s number.

Declare boolean and start while loop. The while loop will be used to check input from the user and reset the range to narrow down the number of options.

* Boolean finished = false sets a boolean for the while loop to utilize to finish the program once the number is guessed by the code.
* While (!finish) allows the while loop to run until it reaches a condition that sets the boolean to true.

int guess = min + (int)(Math.random() \* (max - min + 1)) ; This is the initial guess from the code. This guesses a random number within the range. The range is reset in the while loop and it is not messed with during this formula.

guesses++; incrementing the number of guesses counter by one every time the loop restarts

Print statements:

* System.out.println("Is your number: " + guess); asks the user if the guess is correct
* System.out.println("Type 1 if I got it right."); informs the user what to input if the code guessed correctly
* System.out.println("Type 2 if your number is greater than " + guess + "."); informs the user what to input when number they are thinking of is greater than the initial guess
* System.out.println("Type 3 if your number is less than " + guess + ".") ;informs the user what to input when number they are thinking of is less than the initial guess
* System.out.println("Press enter when you are done."); informs the user to press enter after they type the number

Scanner scanner = new Scanner(System.in); Creating the scanner to take user input

String answer = scanner.nextLine(); Creating a string to store the user’s input in

Set of conditionals to tell the code if it is right, or to guess higher or lower, depending on user input.

if(answer.equals("3")){

max = guess - 1;

}Since the user is saying the number is less than what the code guessed, this will reset the range to be just under the guessed value.

else if(answer.equals("2")){

min = guess + 1;

} Since the user is saying the number is greater than what the code guessed, this will reset the range to be just above the guessed value.

else if(answer.equals("1")){

System.out.println("Ha! it took me " + guesses + " guesses to get it right. Thanks!");

finished = true;

} This else if statement ends the code by stating the amount of guesses counted and setting the boolean expression to true.