

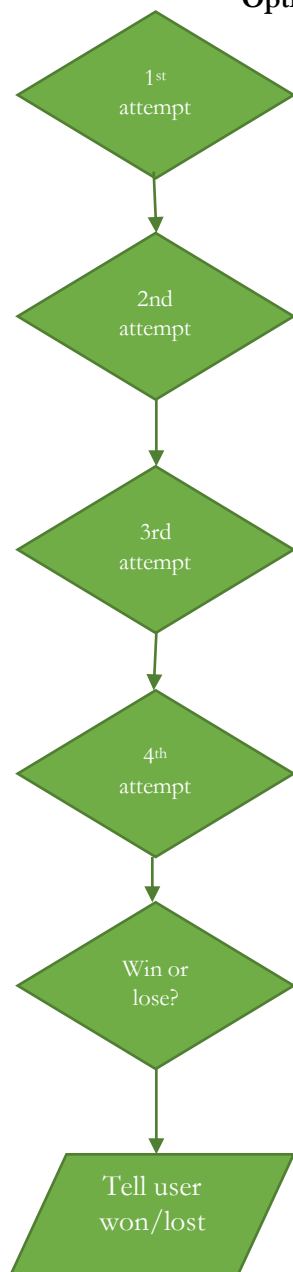
Practice Problems 3.3

Practice with Branches

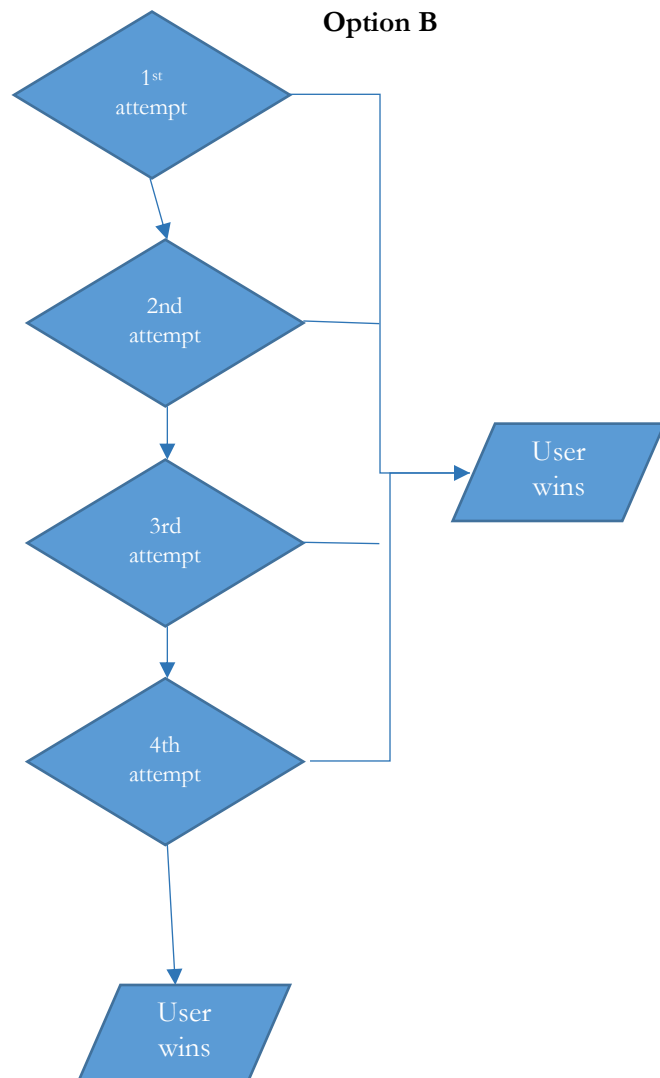
For these practice problems, we will be creating a program. I will give you some code, and you will fill in the gaps to make it work.

The program we will be making is a game. The program will prompt the user to guess a number one through 20, included both 1 and 20. The program will give the user 4 attempts to guess the correct value. If a user's guess is incorrect, the program will output that the guess was too big or too small. You are given two possibilities for how you can accomplish this task. There is a flowchart to represent each:

Option A



Option B



In either option, we can outline our code as followed:

```
//find a random int that is in the range of 0 to max
//1st Attempt
//2nd Attempt
//3rd Attempt
//4th Attempt
//Check if user was correct
```

For the code for finding the random number, you can use this:

```
final int MAX = 20;
int randNum = (int) (Math.random() * 133); //comes up with at most 3 digit int
randNum = randNum % (MAX + 1); //Make sure randNum is 0 to MAX
```

You are free to pick the option (Option A or Option B).

Copy your code here:

```
package practice.problems.pkg3.pkg3;
import java.util.Scanner;
public class PracticeProblems33 {
    public static void main(String[] args) {
        Scanner scnr = new Scanner(System.in);

        final int MAX = 20;
        int randNum = (int) (Math.random() * 133);
        randNum = randNum % (MAX + 1);

        System.out.print("Enter your first guess: ");
        int guess1 = scnr.nextInt();

        if (guess1 > randNum) {
            System.out.println("Too big");
        } else if (guess1 < randNum) {
            System.out.println("Too small");
        } else if (guess1 == randNum) {
            System.out.println("You got it!");
        }

        System.out.print("Enter your second guess: ");
        int guess2 = scnr.nextInt();

        if (guess2 > randNum) {
            System.out.println("Too big");
        } else if (guess2 < randNum) {
            System.out.println("Too small");
        } else if (guess2 == randNum) {
            System.out.println("You got it!");
        }

        System.out.print("Enter your third guess: ");
```

```
int guess3 = scnr.nextInt();

    if (guess3 > randNum) {
        System.out.println("Too big");
    } else if (guess3 < randNum) {
        System.out.println("Too small");
    } else if (guess3 == randNum) {
        System.out.println("You got it!");
    }

System.out.print("Enter your fourth guess: ");
int guess4 = scnr.nextInt();

    if (guess4 > randNum) {
        System.out.println("Too big");
    } else if (guess4 < randNum) {
        System.out.println("Too small");
    } if (guess4 == randNum) {
        System.out.println("You got it!");
    }

System.out.println();
System.out.println(randNum);

}

}
```