Lab 7: Tower of Hanoi Solver

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Location: CourseWeb -> Labs/Recitations -> Lab 7: Tower of Hanoi Solver
Download the following files:
  1. TowerOfHanoi.java (Your TowerOfHanoi.java from your previous lab)
  2. THSolverFrame.java
  3. THComponent.java (from previous lab)
```

Introduction

Last week, you have created `TowerOfHanoi.java` which can be used to represents a Tower of Hanoi puzzle. This week, you have to solve Tower of Hanoi puzzles using recursion.

What to do

In the file `THSolverFrame.java`, you will find a `main` function and a method named `solveTower()`. The `main` function is as follows:

```
        public static void main(String[] args) throws InterruptedException
        {
                TowerOfHanoi towers = new TowerOfHanoi(10);
                THComponent thc = new THComponent(towers);

                JFrame frame = new JFrame();
                frame.setTitle("Tower of Hanoi");
                frame.setSize(500,500);
                frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

                frame.add(thc);

                frame.setVisible(true);

                Thread.sleep(5000);

                //solveTower(towers, thc, ...);

                System.out.println("DONE!!!");
        }
```

Note that the second to last line is commented out. It calls a method named `solveTower()` with **incomplete** number of arguments. You job is to finish the method `solveTower()` (marked `TO DO`) using the algorithm discussed in class. Similarly, the **signature** of the starting code for the method `solveTower` is incomplete. **DO NOT** modify the first two arguments of the method `solveTower()`. They must be `TowerOfHanoi` and `THComponent`. This will allow you to see the animation of solving the Tower of Hanoi.

To see the animation, every time your method calls the method `moveTopDisc()` of the `TowerOfHanoi`, you have to call `thc.repaint();` follows by `Thread.sleep(100);`. Note that the default number of discs is 10. You can change it by simply change the value of `numberOfDiscs` in the `main` method.

Test Class

There is no test class for this lab. We will test by looking at the animation.

Due Date and Submission

For the due date, please check the lab in the CourseWeb. Submit your `THSolverFrame.java` to the CourseWeb under this lab by the due date. **No late submission will be accepted**.