COMP251 - Week6 – Lab

May 31st, 2017

Goal: This lab will give you practice with recursive thinking.

Getting Started

You can have a partner for this lab, but submit individually. You can read the lectures to answer the question.

1. Consider the following mystery method. Trace it for `mystery("01101", 4)` ; try to draw a tree of all function calls (you do not need to submit the tree, just briefly explain it and write the final result of calling `mystery("01101", 4)` . Give a high-level description of what the method does.

```
int mystery(String s, int last) {
   if (last < 0)
       return 0;
   if (s.charAt(last) == '0')
       return 2 * mystery(s, last-1);
 return 1 + 2 * mystery(s, last-1);
}
```

.

2. Write a recursive function convert a decimal number into a binary number, printing the binary number (You can write a pseudocode, but make sure there is no bug and you consider all special cases).

```
public static void decToBin(int num){
     // Your code
}
```

Show your answers to the Instructor or Lab Assistant.