Please implement coding solutions to the following two questions in Java, C++, or Python.

**Coding Question 1: Graph Coloring**  
Given the attached input file, properly color each graph so that no two connecting nodes have the same color. A node can be colored red, yellow, green, or blue. Some nodes are already assigned in the input file.   
  
In each graph, only assign nodes colors if they can be no other color. If a node can be assigned one of multiple colors, mark it with the word “err”. Also use “err” if there are no available options for that node (see below).  
  
Produce a new file with the remaining nodes assigned a color that works with the rest of the graph. We will diff it with our solution file. For example, with an input file as follows:  
  
node1: yellow

node2: red

node3:

node4: blue  
  
{

{node1, node3},

{node2, node3},

{node3, node4}

}

you should produce the following file:  
  
node1: yellow

node2: red

node3: green

node4: blue  
  
{

{node1, node3},

{node2, node3},

{node3, node4}

}

Ambiguous graphs:

node5 is connected to each other color  


node5: err

nodes 1 and 2 can each be either red or yellow



node1: err

node2: err

**Code Question 2: Missionaries and Cannibals**

This is a logic question where the problem & solution must be translated into code. Again, please code your solution in Java, C++, or Python.

**Problem**:

Three missionaries and three cannibals come to a river. There is a boat on their bank of the river that can be used by either one or two persons at a time. This boat must be used to cross the river in such a way that cannibals never outnumber missionaries on either bank of the river (although cannibals can be alone on one bank). How do the missionaries and cannibals successfully cross the river?