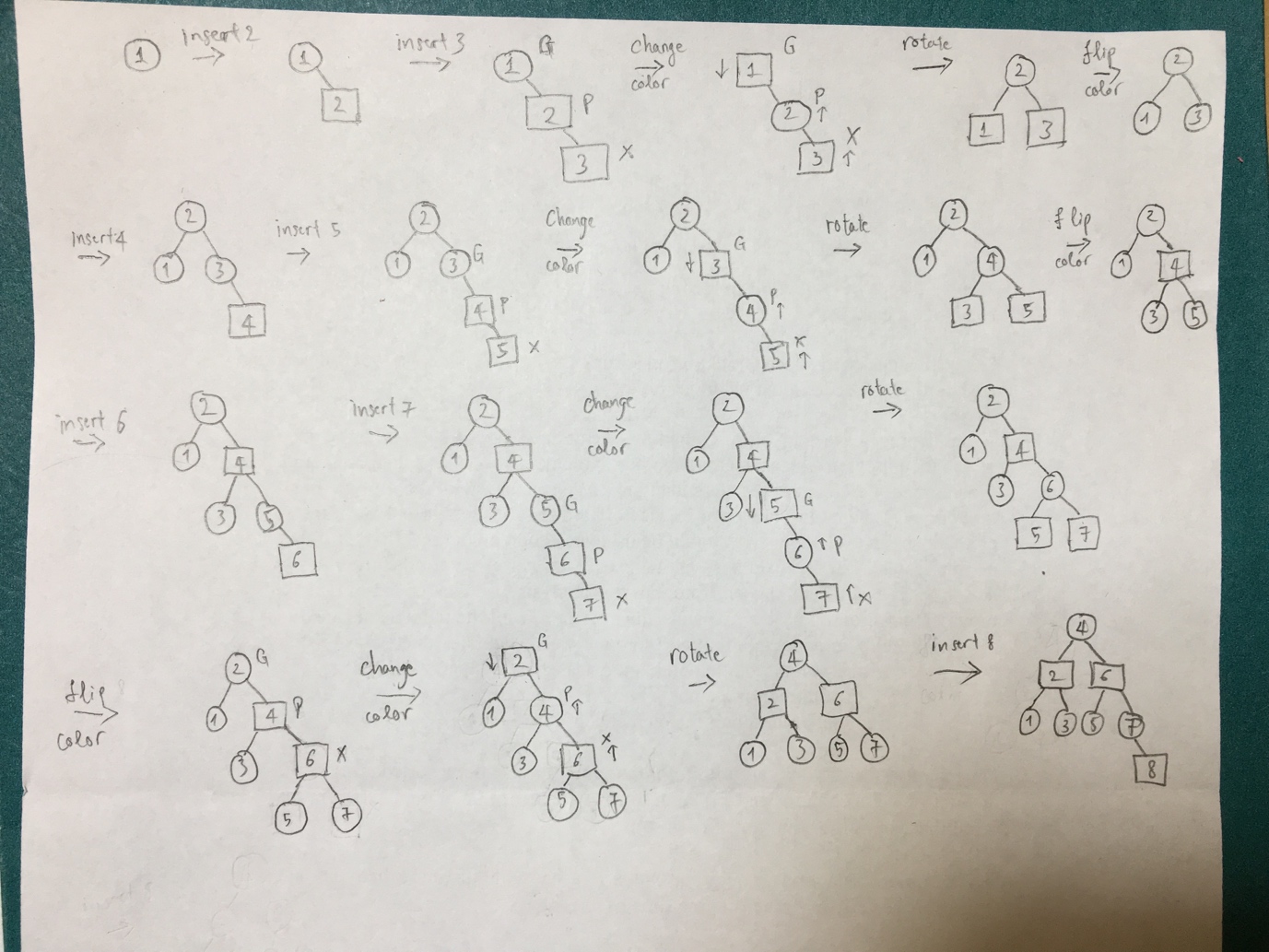
Lab 8

# Problem 1

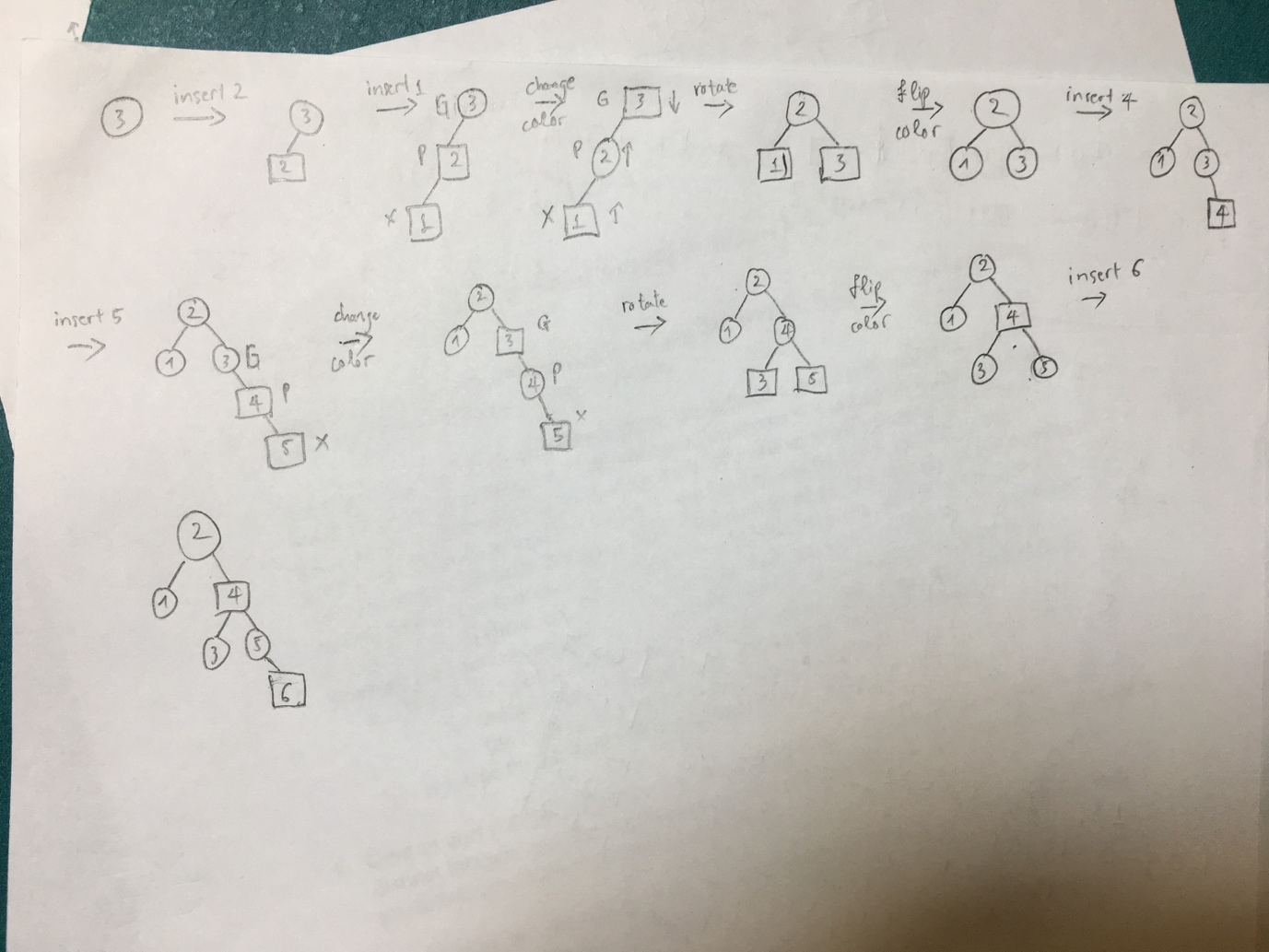
Algorithm reverse(S)  
 Input A String S  
 Output A String with each element is reverted  
  
 stack <- new Stack  
 for i <- 0 to S.length - 1 do  
 stack.push(S.charAt(i))  
  
 reverseStr <- ""  
  
 while !stack.isEmpty() do  
 reverseStr <- reverseStr + stack.pop()  
  
 reverseStrArr = reverseStr.split(" ")  
  
 result <- ""  
  
 for i <- reverseStrArr.length - 1 to 0 do  
 result <- result + reverseStrArr[i] + " "  
  
 return result

# Problem 2

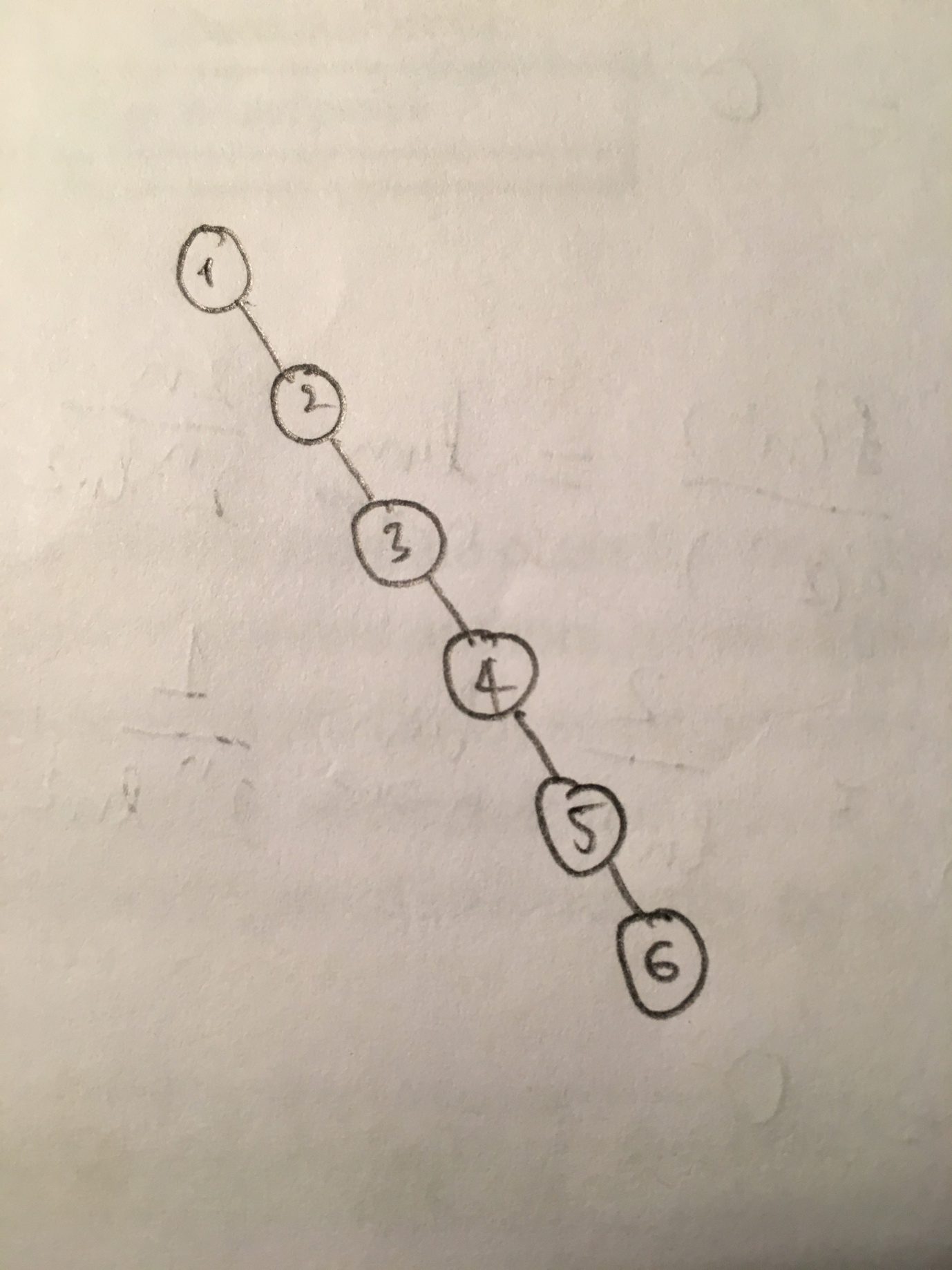
A



B



If we store data in BST with sorted array like part A we will get the worst case like image below. The Red Black tree handle sorted array is better.



# Problem 3

|  |  |
| --- | --- |
| 1 | Yes |
| 2 | No |
| 3 | Yes |
| 4 | No |
| 5 | No |
| 6 | No |
| 7 | Yes |

# Problem 4

|  |  |
| --- | --- |
| 1 | No |
| 2 | Yes |
| 3 | No |
| 4 | Yes |
| 5 | Yes |
| 6 | No |
| 7 | No |