Electronic Supplementary Material (ESI) for Analyst.
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Artificial Intelligent Biomarker Analysis Process Based on Logic Gates

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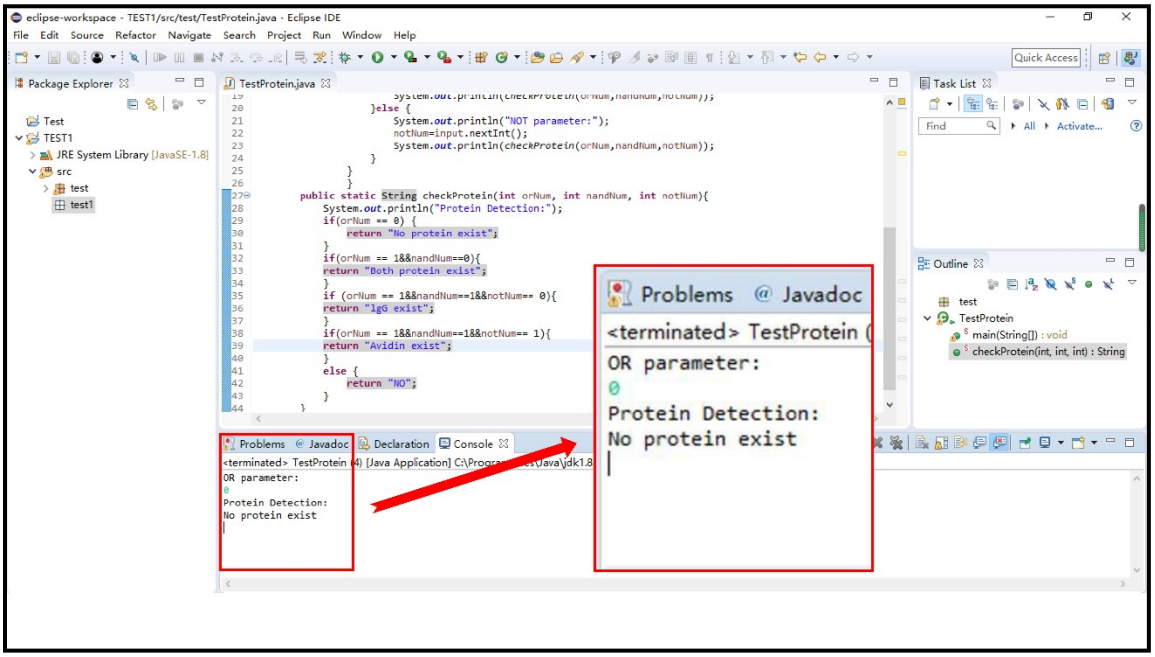
1. JAVA codes (eclipse 4.5.1)

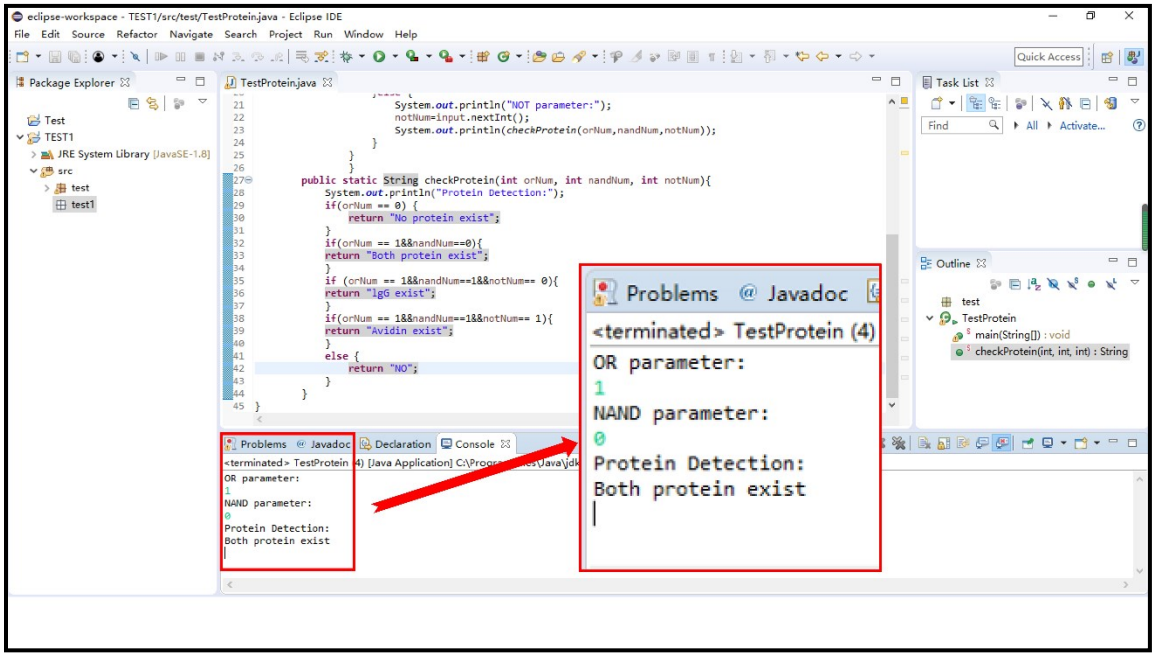
```
package test;

import java.util.Scanner;

public class TestProtein {
        public static void main(String[] args){
                int orNum =0,notNum = 0,nandNum=0;
                Scanner input=new Scanner(System.in);
                System.out.println("OR parameter:");
                 orNum=input.nextInt();
                 if(orNum == 0) {
                     System.out.println(checkProtein(orNum,nandNum,notNum));
                  }else {
                     System.out.println("NAND parameter:");
                     nandNum=input.nextInt();
                  if(nandNum == 0) {
                      System.out.println(checkProtein(orNum,nandNum,notNum));
                  }else {
                     System.out.println("NOT parameter:");
                     notNum=input.nextInt();
                     System.out.println(checkProtein(orNum,nandNum,notNum));
                  }
        }
        }
public static String checkProtein(int orNum, int nandNum, int notNum){
                    System.out.println("Protein Detection:");
                   if(orNum == 0) {
                        return "No protein exist";
                    }
                    if(orNum == 1&&nandNum==0){
                        return "Both protein exist";
                    }
                    if (orNum == 1&&nandNum==1&&notNum== 0){
                        return "lgG exist";
                    }
                    if(orNum == 1&&nandNum==1&&notNum== 1){
                        return "Avidin exist";
                    }
                    else {
                        return "NO";
                    }
}
}
```

2. Results of output

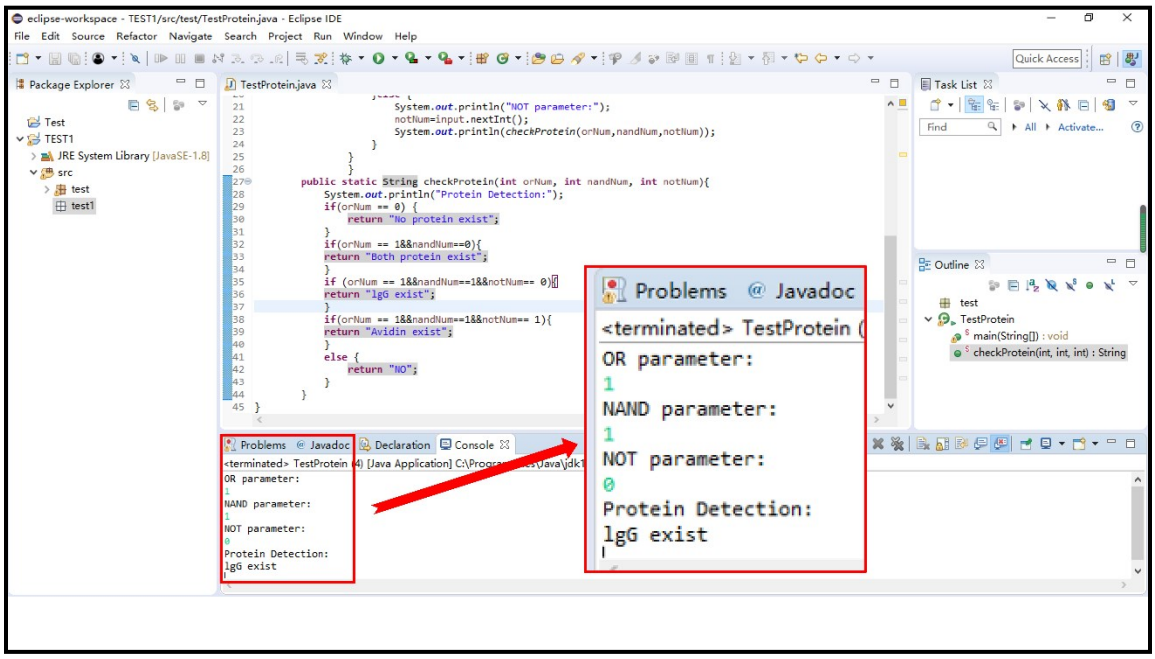
2.1 OR: 0



2.2 OR: 1; NAND: 0



2.3 OR: 1; NAND: 1; NOT: 0



2.4 OR: 1; NAND: 1; NOT: 1