Seminar 4
week 4 (24 – 30 October 2017)

1. **Discussion of the Lab-Assignment3 from Laboratory 4.** Please discuss how the implementation must be done. Regarding the View part you may want to discuss how it would be possible to call many times the execution of the same example (how we need to modify PrgState, Repository and Controller).

2. **Discussion of the following IO classess usage:** FileReader, FileWriter, BufferedReader, BufferedWriter, StreamTokenizer, Scanner and PrintStream. Some code templates of using these classes are given below:

   - **FileReader class example:**
     ```
     try(FileReader fileReader = new FileReader("c:\\data\\text.txt")){
            int data = fileReader.read();
        while(data != -1) { // read a char
          System.out.print((char) data));
          data = fileReader.read();
        }
     }
     ```

   - **FileWriter class example:**
     ```
     try(FileWriter fileWriter = new FileWriter("data\\filewriter.txt",true)){
            //true –appends, false or nothing-overwrites
            fileWriter.write("data 1");
            fileWriter.write("data 2");
            fileWriter.write("data 3");
     }
     ```

   - **BufferedReader class example:**
     ```
     Reader reader = new FileReader("data.bin");
     try(BufferedReader bufferedReader =new BufferedReader(reader)){
       String line = bufferedReader.readLine();
       while(line != null) {
         //do something with line

         line = bufferedReader.readLine();
       }
     }
      or

     br=new BufferedReader(new FileReader(numefis));
         String linie;
         while((linie=br.readLine())!=null){
           String[] elems=linie.split("[|]");
           if (elems.length<2){
              System.err.println("Linie invalida "+linie);
              continue;}
          //do something with the line
         }
     ```

- **BufferredWriter class example:**

```java
FileWriter output = new FileWriter("data.bin");
try(BufferedWriter bufferedWriter = new BufferedWriter(output)){
    for(i=0;i<100;i++){
        bufferedWriter.write("Hello World");
        bufferedWriter.newLine();
        if(i%5==0)
            bufferedWriter.flush();
    }
}
```

- **StreamTokenizer class example:**

```java
Reader reader = new FileReader("data.bin");
try(StreamTokenizer streamTokenizer = new StreamTokenizer(reader)){

    while(streamTokenizer.nextToken() != StreamTokenizer.TT_EOF){

        if(streamTokenizer.ttype == StreamTokenizer.TT_WORD) {
            System.out.println(streamTokenizer.sval);
        } else if(streamTokenizer.ttype == StreamTokenizer.TT_NUMBER) {
            System.out.println(streamTokenizer.nval);
        } else if(streamTokenizer.ttype == StreamTokenizer.TT_EOL) {
            System.out.println();
        }
    }
}
```

- **PrintWriter class example:**

```java
FileWriter  writer    = new FileWriter("report.txt");
PrintWriter printWriter = new PrintWriter(writer);
printWriter.print(true);
printWriter.print((int) 123);
printWriter.print((float) 123.456);
intVar i=200;
printWriter.printf("Text + data: %d", intVar);
printWriter.close();
```

- **Scanner class examples:**

```java
Scanner sc = new Scanner(new File("myNumbers"));
    while (sc.hasNextLong()) {
        long aLong = sc.nextLong();
    }
```