

JAVA

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# 기본 프로그래밍 09

# Objective

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## File Handling

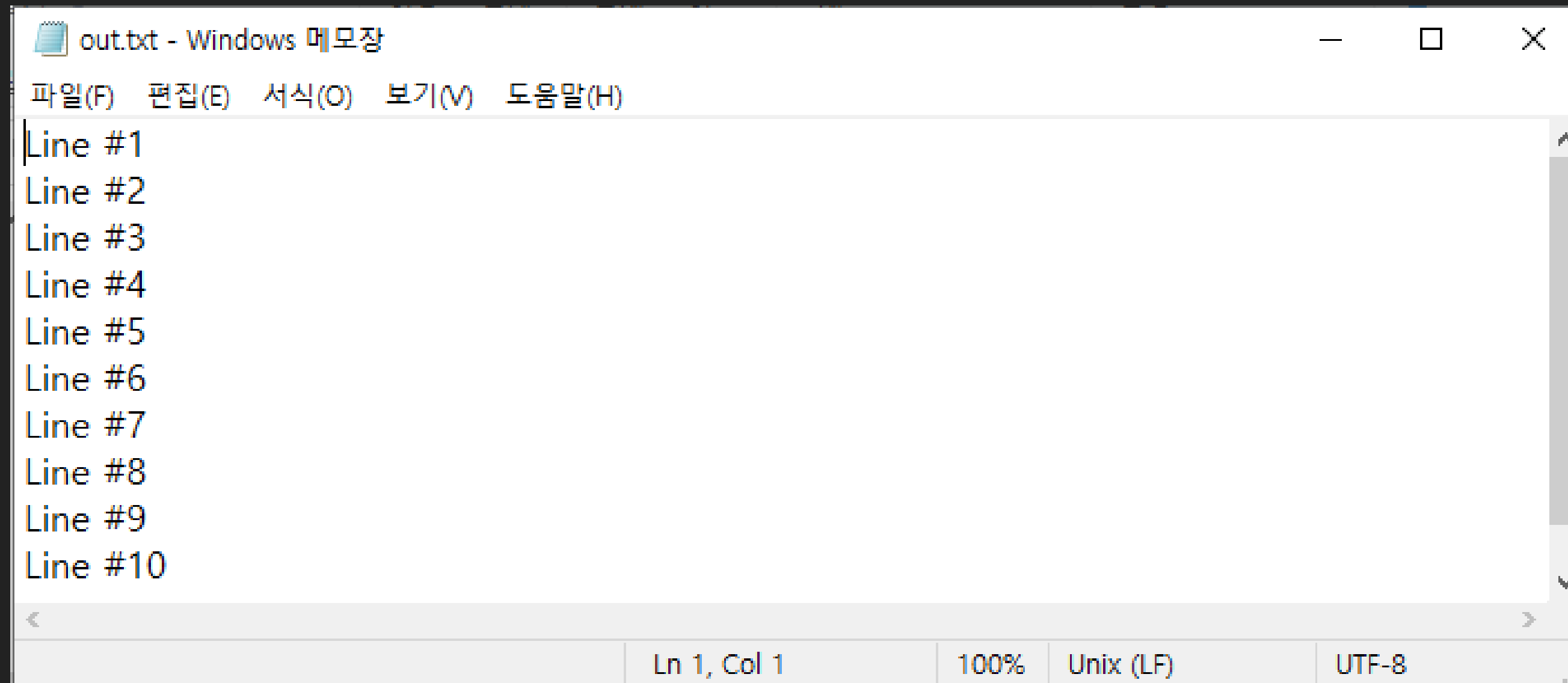
- Write
- Read
- Update
- Delete

# File Handling(Cont'd)

## FileOutputStream

- ▶ Write a file

```
10 public static void main(String[] args) throws IOException {  
11     // TODO Auto-generated method stub  
12     FileOutputStream output = new FileOutputStream("C:\\Users\\kopo\\Desktop\\out.txt");  
13     for(int i = 1; i < 11; i++) {  
14         String data = "Line #" + i + "\n";  
15         output.write(data.getBytes());  
16     }  
17     output.close();  
18 }
```



# File Handling(Cont'd)

## FileInputStream

- Read a file I

```
11 public static void main(String[] args) throws IOException {  
12     // TODO Auto-generated method stub  
13     byte[] content = new byte[1000];  
14     FileInputStream input = new FileInputStream("C:\\Users\\kopo\\Desktop\\out.txt");  
15  
16     input.read(content);  
17     String allLine = new String(content);  
18     System.out.println(allLine);  
19  
20     input.close();  
21 }
```

Problems @ Javadoc Declaration Console Coverage

<terminated> Main [Java Application] C:\Users\kopo\p2\pool\plugins\org

Line #1  
Line #2  
Line #3  
Line #4  
Line #5  
Line #6  
Line #7  
Line #8  
Line #9  
Line #10

# File Handling(Cont'd)

## BufferedReader

- Read a file II

```
13 public static void main(String[] args) throws IOException {  
14     // TODO Auto-generated method stub  
15     BufferedReader reader = new BufferedReader(new FileReader("C:\\Users\\kopo\\Desktop\\out.txt"));  
16     String line;  
17     while ((line = reader.readLine()) != null) {  
18         System.out.println(line);  
19     }  
20 }
```

Problems @ Javadoc Declaration Console Coverage

<terminated> Main [Java Application] C:\Users\kopo\p2\pool\plugins\org

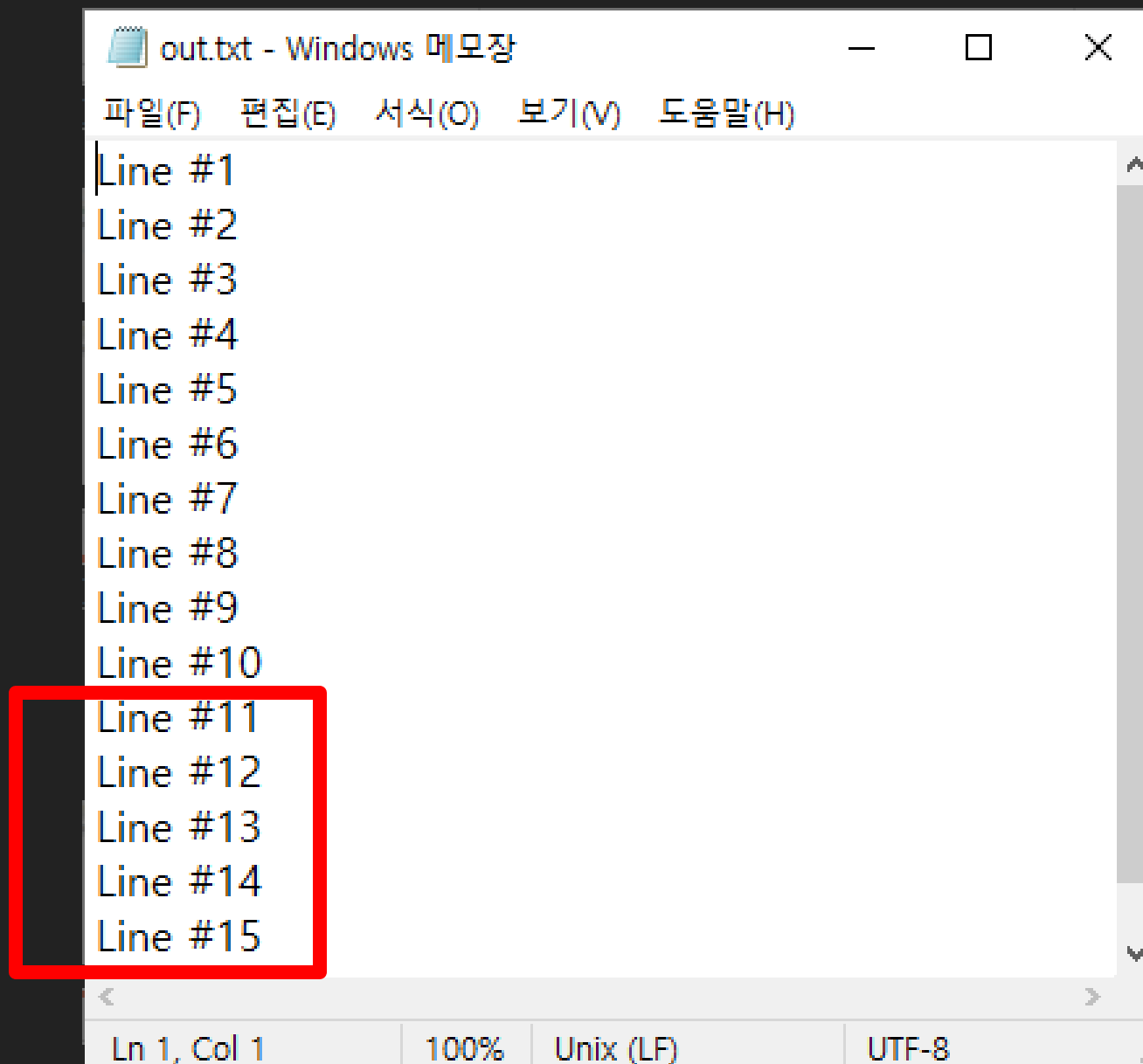
Line #1  
Line #2  
Line #3  
Line #4  
Line #5  
Line #6  
Line #7  
Line #8  
Line #9  
Line #10

# File Handling(Cont'd)

## FileWriter

- ▶ Append lines to the file

```
14 public static void main(String[] args) throws IOException {  
15     // TODO Auto-generated method stub  
16     FileWriter fw = new FileWriter("C:\\Users\\kopo\\Desktop\\out.txt", true);  
17     for(int i = 11; i < 16; i++) {  
18         String data = "Line #" + i + "\n";  
19         fw.write(data);  
20     }  
21     fw.close();  
22 }
```



out.txt - Windows 메모장

파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)

Line #1  
Line #2  
Line #3  
Line #4  
Line #5  
Line #6  
Line #7  
Line #8  
Line #9  
Line #10  
Line #11  
Line #12  
Line #13  
Line #14  
Line #15

Ln 1, Col 1 100% Unix (LF) UTF-8

The second parameter refers to "Append"

# File Handling(Cont'd)

## File

- Check if the file exists, Delete the file

```
15 public static void main(String[] args) throws IOException {  
16     // TODO Auto-generated method stub  
17     File file = new File("C:\\Users\\kopo\\Desktop\\out.txt");  
18     System.out.println(file.exists());  
19     if (file.exists()) {  
20         file.delete();  
21     }  
22     System.out.println(file.exists());  
23 }
```

Problems @ Javadoc Declaration Console

<terminated> Main [Java Application] C:\Users\kopo\p2\p2

true  
false

Check if the file exists

Delete the file

# File Handling

## listFiles

- Print the file list in a directory

```
15 public static void main(String[] args) throws IOException {  
16     // TODO Auto-generated method stub  
17     File dir = new File("C:\\Users\\kopo\\Desktop\\subwaybus");  
18     File files[] = dir.listFiles();  
19  
20     for (int i = 0; i < files.length; i++) {  
21         System.out.println(files[i]);  
22     }  
23 }
```

Problems @ Javadoc Declaration Console Coverage

```
<terminated> Main [Java Application] C:\Users\kopo\p2\pool\plugins\org.ecl  
C:\Users\kopo\Desktop\subwaybus\rawAllData.txt  
C:\Users\kopo\Desktop\subwaybus\rawBusData.txt  
C:\Users\kopo\Desktop\subwaybus\rawData.txt  
C:\Users\kopo\Desktop\subwaybus\road  
C:\Users\kopo\Desktop\subwaybus\subway  
C:\Users\kopo\Desktop\subwaybus\weatherAll.txt  
C:\Users\kopo\Desktop\subwaybus\weatherRainSnow.txt
```



# P1

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## Database for Rock-Paper-Scissors Game

- Write a text file including the game results of P6
- The game result should be appended to the end of the file in real-time

## Composing a CSV(Comma-separated values) file

- ▶ Visit <https://www.data.go.kr/data/15061105/fileData.do>
- ▶ Download the CSV file
- ▶ Open the file on the notepad and MS Excel
- ▶ Open the file with using Java
- ▶ Create a function which extracts the data in the specific rows and columns
- ▶ Test the function with examples

## Descriptive Statistics

- ▶ Visit <https://www.data.go.kr/data/15063379/fileData.do>
- ▶ Download the CSV file
- ▶ Open the file with using Java
- ▶ Make descriptive statistics including follow items
  1. Average number of new subscriptions per month
  2. Minimum number of new subscriptions per month
  3. Maximum number of new subscriptions per month
  4. Average number of new subscriptions per year
  5. Minimum number of new subscriptions per year
  6. Maximum number of new subscriptions per year