# Computer Programming Lab 6

2018.04.06

# File Processing

- Done by `java.io.File`.
- Some useful methods
  a. `canRead()`
  b. `delete()`
  c. `length()`
- For more information: API document.

# File Input

```
import java.io.*;
import java.util.*;

public class FileRead {
  public static void main(String[] ar) throws FileNotFoundException {
    Scanner input = new Scanner(new File("test.txt"));
    String oneLine;
    while(input.hasNextLine())
    {
      oneLine = input.nextLine();
      System.out.println(oneLine);
    }
  }
}
```

# File Output

```
import java.io.*;
import java.util.*;

public class FileWrite {
  public static void main(String[] ar) throws FileNotFoundException {
    PrintStream output = new PrintStream(new File("out.txt"));
    int numLine = 100;
    Random rand = new Random();
    double oRand;
    for(int i = 0; i < numLine; i++)
    {
      oRand = rand.nextDouble();
      output.println(i + '\t' + oRand);
    }
  }
}
```

# Creating an Array

```
int[] numArray = new int[5];
```

| *index* | *0* | *1* | *2* | *3* | *4* |
|---|---|---|---|---|---|
| value | 0 | 0 | 0 | 0 | 0 |

```
int[] numArray2 = {2, 1, 1, 9, 0};
```

| *index* | *0* | *1* | *2* | *3* | *4* |
|---|---|---|---|---|---|
| value | 2 | 1 | 1 | 9 | 0 |

# Operations in Array

- `length` property to get length of an array.

```
System.out.println(numArray2 .length);
```

- Java has a class `java.util.Arrays` to manipulate arrays: API document.
  a. `binarySearch(Array, Value)`
  b. `equals(Array1, Array2)`
  c. `fill(Array, Value)`

# Task

1. Make an `int` array of size 20 and fill it with multiples of 5. That is, {5, 10, 20, …, 100}.
2. Store the array above as two different txt files.
   a. One element per line. That is,
      5
      10
      `/* omitted */`
      100
   b. One string. That is,
      [5, 10, `/* omitted */`, 100]