

Lec 10

2D arrays. File IO

Programmer of the Week

PA2 - turtles

- A) CSE11 Repaint
- B) Star wars
- C) Polygons
- D) Good/bad mood
- E) Link

Programmer of the Week

PA2 - turtles

- A) Face cake
- B) Game
- C) Webcam

What gets printed

```
int[] array1 = {1, 2, 3};  
int[] array2 = {1, 2, 3};  
int[] array3 = array1;
```

```
System.out.println(array1 == array2);  
System.out.println(array1 == array3);
```

- A) true, true
- B) true, false
- ➡ C) false, true
- D) false, false
- E) Compiler error

Iterate through an array

```
public static void main(String[] args) {  
    for(int i = 0; i < args.length; i++) {  
        System.out.println(args[i]);  
    }  
  
    for(String s : args) { // this is a for-each loop  
        System.out.println(s);  
    }  
}
```

2D arrays



2-dimensional arrays

```
int[][] array = new int[rows][cols];  
int[][] arrayEx = new int[2][3];
```

0	0	0
0	0	0

```
int[][] arrayEx2 = { {10,11,12},  
                     {14,15,16} };
```

10	11	12
14	15	16

What gets printed

```
int i,j;  
int[][] array = { {1, 2},  
                  {0, 3, 5} };  
for(i = array.length-1; i >= 0; i--) {  
    for(j = 0; j < array[i].length; j++) {  
        System.out.print(array[i][j]);  
    }  
}
```

- A) 12035
-  B) 03512
- C) 53021
- D) Compiler error
- E) Runtime error

```
public class FinalQuestion {  
    public static void changeArray(int[] i) {  
        i = new int[10];  
    }  
    public static void main(String[] args) {  
        int[] i = {10, 20};  
        changeArray(i);  
        System.out.println(i.length);  
    }  
}
```

- A) 0
- B) 1
-  C) 2
- D) 10

Motivation for IO



System.in

<http://docs.oracle.com/javase/7/docs/api/java/io/InputStream.html>

```
public class Sysin {  
    public static void main(String[] args) {  
        int input;  
        System.out.print("enter your name: ");  
        while((input = System.in.read()) != '\\n') {  
            System.out.print(input + " ");  
        }  
    }  
}
```

```
$ java Sysin  
enter your name: adam
```

- A) a d a m
-  B) 97 100 97 109
- C) adam
- D) Infinite loop
- E) Error

FileInputStream

<http://docs.oracle.com/javase/7/docs/api/java/io/FileInputStream.html>

```
import java.io.FileInputStream;  
FileInputStream fs = new FileInputStream("file.txt");  
  
fs.read();  
fs.close();
```

IOException

```
import java.io.IOException;

public static void main(String[] args) throws IOException {

}
```

File Input

```
import java.io.FileInputStream;
import java.io.IOException;

public static void main() throws IOException {
    FileInputStream fs = new FileInputStream("file.txt");
    fs.read();
    fs.close();
}
```

What is the downside of reading one byte at a time?

