

IO

Input/Output

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Introduction

What we learned until now:

- ▶ Thinking in code
 - ▶ Primitive Types
 - ▶ Usage of Eclipse
 - ▶ Arrays
 - ▶ Collections
 - ▶ Exceptions
- ▶ Thinking in objects
 - ▶ Transferring a task into a class-structure
 - ▶ Declaring classes in java
 - ▶ Inheritance
 - ▶ Abstract classes / interfaces
- ▶ Usage of Fredo's Simple-GUI

Today

- ▶ IO
- ▶ Enums
- ▶ Whatever =)





Purposes

- ▶ Reading/Writing files
- ▶ Network communication
- ▶ Encryption
- ▶ Compression
- ▶ Buffering
- ▶ Encoding

Basic streams

InputStream

- ▶ Basic method:
int read() - Read a byte
- ▶ Reading purposes
- ▶ Some implementing Classes
 - ▶ `AudioInputStream`
 - ▶ `ByteArrayInputStream`
 - ▶ `FileInputStream`

OutputStream

- ▶ Basic method:
write(int b) - Write a byte
- ▶ Writing purposes `*.*`
- ▶ Some implementing Classes
 - ▶ `FileOutputStream`
 - ▶ `FilterOutputStream`
 - ▶ `ObjectOutputStream`

Basic character streams

Reader

- ▶ Basic method:
int read() - Read a char
- ▶ Text reading purposes
- ▶ Some implementing Classes
 - ▶ *BufferedReader*
 - ▶ *CharArrayReader*
 - ▶ *FilterReader*

Writer

- ▶ Basic method:
write(int b) - Write a char
- ▶ Text writing purposes
- ▶ Some implementing Classes
 - ▶ *BufferedWriter*
 - ▶ *CharArrayWriter*
 - ▶ *FilterWriter*

Basic character streams

Reader

- ▶ Basic method:
int read() - Read a char
- ▶ Text reading purposes
- ▶ Some implementing Classes
 - ▶ *BufferedReader*
 - ▶ *CharArrayReader*
 - ▶ *FilterReader*

Writer

- ▶ Basic method:
write(int b) - Write a char
- ▶ Text writing purposes
- ▶ Some implementing Classes
 - ▶ *BufferedWriter*
 - ▶ *CharArrayWriter*
 - ▶ *FilterWriter*
- ▶ And: write(String s) -
Write a String

File-Streams

Benutzung in Eclipse...

Enumerations

Enumerations

```
1  public enum Colors {  
2      RED,  
3      GREEN,  
4      BLUE;  
5  }  
6  // ...  
7  Colors myColor = Colors.RED;
```

Enumerations

```
1 System.out.println(Colors.RED.name());  
2 System.out.println(Colors.RED.ordinal());
```

Enumerations

```
1  public enum Colors {
2      RED(255, 0, 0),
3      GREEN(0, 255, 0),
4      BLUE(0, 0, 255);
5
6      private int r, g, b;
7      private Colors(int r, int g, int b) {
8          this.r = r;
9          this.g = g;
10         this.b = b;
11     }
12
13     public String getRGB() {
14         return "R:" + r + " G:" + g + " B:" + b;
15     }
16 }
```