

THE DECORATOR PATTERN

HERE IS HOW INPUT OUTPUT IN JAVA WORKS -

INPUTS AND OUTPUTS ARE REPRESENTED AS STREAMS

INPUTS CAN BE - FILES, MEMORY BUFFERS (ARRAYS),
PIPES, NETWORK CONNECTIONS, SYSTEM.IN (KEYBOARD INPUT)

LIKEWISE OUTPUTS CAN BE - FILES, MEMORY BUFFERS (ARRAYS),
PIPES, NETWORK CONNECTIONS, SYSTEM.OUT AND SYSTEM.ERROR
(SCREEN OUTPUT)

STREAMS ARE DATA FLOWS - INPUT STREAMS
ORIGINATE FROM INPUTS, AND OUTPUT STREAMS
FROM OUTPUTS

JAVA PROVIDES OBJECTS TO ENCAPSULATE INPUTS, OUTPUTS AND STREAMS

```
}  
} else {  
    if (file.IsZipped()) {  
        if (file.IsBinary()) {  
            processEncryptedUnZippedBinaryFile(file);  
        } else {  
            processEncryptedUnZippedTextFile(file);  
        }  
    } else {  
        if (file.IsBinary()) {  
            processUnEncryptedUnZippedBinaryFile(file);  
        } else {  
            processUnEncryptedUnZippedTextFile(file);  
        }  
    }  
}
```

AND ADDING ONE
MORE VARIABLE,
SAY FOR WHETHER
THE FILE IS ENCODED
FOR WINDOWS OR UNIX
WOULD INVOLVE
CHANGING ALL THIS
CODE!

**THIS CODE VIOLATES THE OPEN-CLOSED
PRINCIPLE: CLASSES SHOULD BE OPEN
FOR EXTENSION BUT CLOSED FOR
MODIFICATION**

A TERRIBLE WAY OF HANDLING THIS:

THE NUMBER OF
SPECIAL CASES
IS ALREADY
OUT-OF-CONTROL..

```
if (file.IsEncrypted()) {  
    if (file.IsZipped()) {  
        if (file.IsBinary()) {  
            processEncryptedZippedBinaryFile(file);  
        } else {  
            processEncryptedZippedTextFile(file);  
        }  
    } else {  
        if (file.IsBinary()) {  
            processUnEncryptedZippedBinaryFile(file);  
        } else {  
            processUnEncryptedZippedTextFile(file);  
        }  
    }  
} else {  
    if (file.IsZipped()) {  
        if (file.IsBinary()) {  
            processEncryptedUnZippedBinaryFile(file);  
        } else {  
            processEncryptedUnZippedTextFile(file);  
        }  
    } else {  
        if (file.IsBinary()) {  
            processUnEncryptedUnZippedBinaryFile(file);  
        } else {  
            processUnEncryptedUnZippedTextFile(file);  
        }  
    }  
}
```

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JAVA OBVIOUSLY DOES
NOT DO IT THIS WAY,
RATHER IT USES -

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