

Eric Wilson

Java Project #15

Functional Programming

(Part 3 turned in late)

Part 1

```
import java.nio.file.*;
import java.nio.file.Path;
import java.nio.file.Paths;
import java.util.Arrays;
import java.util.Comparator;
import java.util.Optional;
import java.util.stream.Stream;

/**
 * Created by EW043872 on 12/7/2015.
 */
public class FunctionalWhoozawhatsit {
    public static String getRevenue(String s) {
        return s.split("[|]")[2]; // split will split a string into an array of strings based on given regular
        expression
    }

    private static String getName(String s) {
        return s.split("[|]")[0];
    }

    private static String getStudio (String s){
        return s.split("[|]")[1];
    }

    private static String getYear (String s) {
        return s.split("[|]")[3];
    }

    public static void main(String [] args) throws Exception{
        Path path = Paths.get("C:\\Users\\EW043872\\IdeaProjects\\Functional\\src\\data.txt");
        Stream<String> line = Files.lines(path);

        Optional<String> maximum = line
            .sorted((l2,l1) -> (Double.valueOf(getRevenue(l1)))
                .compareTo(Double.valueOf(getRevenue(l2))))
            .findFirst();
        System.out.print(maximum);
    }
}
```

"C:\Program ...

Optional[Gone with the Wind|MGM|1582.0094|1939]

Process finished with exit code 0

Part 2

```
public static void main(String [] args) throws Exception{
    Path path = Paths.get("C:\\Users\\EW043872\\IdeaProjects\\Functional\\src\\data.txt");
    Stream<String> line = Files.lines(path);

    Double seventies = line
        .filter((ln1 -> Integer.parseInt(getYear(ln1)) >= 1970))
        .filter(ln2 -> Integer.parseInt(getYear(ln2)) < 1980)
        .mapToDouble(ln -> Double.parseDouble(getRevenue(ln)))
        .sum();

    System.out.print("Seventies: " + seventies + "\n");

    line = Files.lines(path);

    Double eighties = line
        .filter((ln1 -> Integer.parseInt(getYear(ln1)) >= 1980))
        .filter(ln2 -> Integer.parseInt(getYear(ln2)) < 1990)
```

```

        .mapToDouble(ln -> Double.parseDouble(getRevenue(ln)))
        .sum();
    System.out.print("Eighties: " + eighties + "\n");

    if (seventies > eighties)
        System.out.print("Seventies wins!");
    else if (eighties > seventies)
        System.out.print("Eighties wins!");
}

```

Part 3

```

import java.nio.file.*;
import java.nio.file.Path;
import java.nio.file.Paths;

/**
 * Created by EW043872 on 12/7/2015.
 */
public class FunctionalWhoozawhatsit {
    public static String getRevenue(String s) {
        return s.split("[|]") [2]; // split will split a string into an array of strings based on given regular
        expression
    }

    private static String getName(String s) {
        return s.split("[|]") [0];
    }

    private static String getStudio (String s){
        return s.split("[|]") [1];
    }

    private static String getYear (String s) {
        return s.split("[|]") [3];
    }

    public static void main(String [] args) throws Exception{
        Path path = Paths.get("C:\\Users\\EW043872\\IdeaProjects\\Functional\\src\\data.txt");

        // Print each line from the file.
        Files.lines(path)
            .filter((n) -> Double.parseDouble(getRevenue(n)) > 500)
            .forEach((n) -> System.out.print(n + "\n" ) );
        //.forEach((line) -> System.out.println(line));
    }
}

```

Functional - [C:\Users\EW043872\IdeaProjects\Functional] - [Functional] - ...\src\Functional...

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Functional > src > data.txt

FunctionalWhoozawhatsit

Run

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?

```
"C:\Program ...
Star Wars: Episode I - The Phantom Menace|Fox|707.6215|1999
Sleeping Beauty|Dis.|569.0535|1959
The Sting|Uni.|697.9886|1973
The Exorcist|WB|865.9915|1973
Jaws|Uni.|1002.8571|1975
Star Wars|Fox|1394.6764|1977
Thunderball|UA|585.684|1965
Snow White and the Seven Dwarfs|Dis.|853.47|1937
Butch Cassidy and the Sundance Kid|Fox|552.468|1969
Fantasia|Dis.|650.2304|1941
The Lion King|BV|697.6613|1994
Beverly Hills Cop|Par.|525.7846|1984
The Jungle Book|Dis.|576.9137|1967
Pinocchio|Dis.|527.7681|1940
Shrek 2|DW|556.3288|2004
Return of the Jedi|Fox|736.4852|1983
Gone with the Wind|MGM|1582.0094|1939
Grease|Par.|602.6688|1978
Raiders of the Lost Ark|Par.|690.1507|1981
Independence Day|Fox|542.3753|1996
Ben-Hur|MGM|767.34|1959
101 Dalmatians|Dis.|782.3521|1961
Forrest Gump|Par.|615.0121|1994
The Sound of Music|Fox|1115.1124|1965
The Robe|Fox|512.5091|1953
The Graduate|AVCO|670.0395|1967
Titanic|Par.|1061.565|1997
The Ten Commandments|Par.|1025.73|1956
Doctor Zhivago|MGM|971.9806|1965
Spider-Man|Sony|544.0656|2002
Avatar|Fox|761.5088|2009
Home Alone|Fox|530.3588|1990
Love Story|Par.|548.0855|1970
Jurassic Park|Uni.|674.9917|1993
Ghostbusters|Col.|553.8207|1984
The Dark Knight|WB|581.6287|2008
Cleopatra (1963)|Fox|526.0465|1963
American Graffiti|Uni.|514.5429|1973
Airport|Uni.|517.6514|1970
The Godfather|Par.|617.9637|1972
The Empire Strikes Back|Fox|768.7544|1980
Goldfinger|UA|519.129|1964
Around the World in 80 Days|UA|505.9385|1956
Pirates of the Caribbean: Dead Man's Chest|BV|506.0401|2006
Mary Poppins|Dis.|612.1636|1964
E.T.: The Extra-Terrestrial|Uni.|1110.7194|1982

Process finished with exit code 0
```

Compilation completed successfully in 8s 67ms (6 minutes ago) 16:1/1037 CRLF windows-1252