Model 1 Reading from a File

The Internet Movie Database (IMDb) maintains information about movies, television shows, video games, and more—including their cast, production crew, trivia, ratings, etc.

Download the *title2020.tsv* file into your Eclipse project. It's a subset of all titles from the year 2020 and is based on the data available at https://www.imdb.com/interfaces/.

Create a new program named *IMDb.java*, and add the following lines to the `main` method:

```java
File file = new File("title2020.tsv");
Scanner in = new Scanner(file);
for (int i = 0; i < 3; i++) {
    System.out.println(in.nextLine());
}
in.close();
```

Note: You will need to import `java.io.File` and `java.util.Scanner`.

Questions (20 min)   Start time:

1. Explain the compiler error when attempting to construct the `Scanner`.

2. Explain two ways you can modify the code to handle this error. (*Hint:* Eclipse offers them as "quick fixes".) Which way is better?

3. Modify the program so that it compiles: 1) surround the "`new Scanner`" line with try/catch; 2) remove the auto-generated `TODO` comment; and 3) initialize the `in` variable to `null` (before the `try` block). Copy and paste the beginning on your `main` method (from the "`File file`" line to the end of the `catch` block) in the box below.

4. Run the program. What is the output of the `for` loop?

5. TSV stands for "tab-separated values". Explain the format of the *title2020.tsv* file:

a) What does the first line represent?

b) What do the remaining lines represent?

c) How are "column breaks" represented?

6. By default, `Scanner.next()` separates input by whitespace. Replace the `for` loop in your `main` method with the following code. What is the resulting output?

```
in.useDelimiter("\t");
in.nextLine();

for (int i = 0; i < 3; i++) {
    System.out.println(in.next());
}
```

7. Remove the `for` loop from your program. Write code that outputs the `tid`, `type`, and `title` of the first 5 titles that start with `"A"`. (*Hint:* Use a `while` loop, call `in.next()` to get each of the three values, and call `in.nextLine()` to advance to the next line.) Paste your code below, starting from the `while` loop.