

TVShowCalculator class:

```
private double avgSeasons;
private int numShows;
private String filename;

//this will perform desired calculations on a given
filename
public TVShowCalculator(String filename) {
    this.filename = filename;
    File file = new File(filename);
    Scanner inputFile;
    try {
        inputFile = new Scanner(file);
    } catch (FileNotFoundException e) {
        System.out.println("File not found");
        return;
    }

    //eat the first header line
    inputFile.nextLine();

    while(inputFile.hasNext()) {
        String line = inputFile.nextLine();
        TVShow show = new TVShow(line);
        this.shows.add(show);
    }

    inputFile.close();

    //champion code
    for(TVShow show : this.shows) {
        if(show.getnSeasons() < this.minSeasons)
            this.minSeasons = show.getnSeasons();
        if(show.getnSeasons() > this.maxSeasons)
            this.maxSeasons = show.getnSeasons();
        this.totalSeasons += show.getnSeasons();
    }

    this.numShows = this.shows.size();
    this.avgSeasons = (double)this.totalSeasons /
numShows;
}

public void printAllShows() {
    for (TVShow show : this.shows)
        System.out.println(show.toString());
}
```

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    }

    public String toString() {
        //this will return a nicely formatted display of all
of the statistics gathered
        String str = "Stats for the shows in the file " +
filename + ":";
        str += "\n\tTotal number of shows: " +
String.valueOf(this.numShows);
        str += "\n\tLargest number of seasons: " +
String.valueOf(this.maxSeasons);
        str += "\n\tSmallest number of seasons: " +
String.valueOf(this.minSeasons);
        str += "\tAverage number of seasons: " +
String.valueOf(this.avgSeasons);
        str += "\n";

        return str;
    }

    public String getFileName() {
        return this.filename;
    }

    public int getTotalSeasons() {
        return totalSeasons;
    }

    public void setTotalSeasons(int totalSeasons) {
        this.totalSeasons = totalSeasons;
    }

    public int getMinSeasons() {
        return minSeasons;
    }

    public void setMinSeasons(int minSeasons) {
        this.minSeasons = minSeasons;
    }

    public int getMaxSeasons() {
        return maxSeasons;
    }

    public void setMaxSeasons(int maxSeasons) {
        this.maxSeasons = maxSeasons;
    }
}

```

```

    public double getAvgSeasons() {
        return avgSeasons;
    }

    public void setAvgSeasons(double avgSeasons) {
        this.avgSeasons = avgSeasons;
    }

    public int getNumShows() {
        return numShows;
    }

    public void setNumShows(int numShows) {
        this.numShows = numShows;
    }
}

```

Runnable class:

```

package tvShow;

public class Runnable {
    public static void main(String[] args) {

        TVShowCalculator small = new
TVShowCalculator("tvsShort.csv");
        TVShowCalculator medium = new
TVShowCalculator("tvsMedium.csv");
        TVShowCalculator large = new
TVShowCalculator("tvs.csv");

        small.printAllShows();
        System.out.print(small.toString());
        System.out.print(medium.toString());
        System.out.print(large.toString());

    }
}

```

TVShow:

```

package tvShow;

import java.text.ParseException;
import ch01.Date;

```

```

public class TVShow {
    String verboseID;
    int id;
    String name;
    String originalName;
    String overview;
    boolean inProduction;
    String originalLanguage;
    Date firstAirDate;
    Date lastAirDate;
    int nEpisodes;
    int nSeasons;

    public TVShow(String verboseID, int id, String name, String
originalName, String overview, boolean inProduction,
        String originalLanguage, Date firstAirDate, Date
lastAirDate, int nEpisodes, int nSeasons) {
        this.verboseID = verboseID;
        this.id = id;
        this.name = name;
        this.originalName = originalName;
        this.overview = overview;
        this.inProduction = inProduction;
        this.originalLanguage = originalLanguage;
        this.firstAirDate = firstAirDate;
        this.lastAirDate = lastAirDate;
        this.nEpisodes = nEpisodes;
        this.nSeasons = nSeasons;
    }

    public TVShow(String inputLine) {
        String[] tokens =
inputLine.split(", (?=([^\\""])*\\"[^\\""]*\\"")*([^\\""])*$", -
1);

        try {
            // If there is no provided string, set the id to
the string null.
            // This is applied to all of the strings in the
data
            this.verboseID = tokens[0].isEmpty() ? "null" :
tokens[0].replace("\\\"", "");

            // If there is no string, set the default int
value to 0. This is applied to all
            // ints

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        this.id = tokens[1].isEmpty() ? 0 :
Integer.parseInt(tokens[1]);
        this.name = tokens[2].isEmpty() ? "null" :
tokens[2].replace("\\\"", "");
        this.originalName = tokens[3].isEmpty() ? "null"
: tokens[3].replace("\\\"", "");
        this.overview = tokens[4].isEmpty() ? "null" :
tokens[4].replace("\\\"", "");

        // I can use equalsIgnoreCase to convert the
string to a boolean. Technically
        // this allows all strings other than
        // true to return false, but this is okay since
we will default these values to
        // false
        this.inProduction = tokens[6].replace("\\\"",
"").equalsIgnoreCase("true");
        this.originalLanguage = tokens[8].isEmpty() ?
"null" : tokens[8].replace("\\\"", "");

        if (!tokens[17].isEmpty()) {
            //tokenize the date
            String[] firstTokens = tokens[17].split("-
");

            //create the date obj
            this.firstAirDate = new
Date(Integer.parseInt(firstTokens[1]),
Integer.parseInt(firstTokens[2]),
            Integer.parseInt(firstTokens[0]));
        } else {
            //set to null if no date
            this.lastAirDate = null;
        }

        if (!tokens[18].isEmpty()) {
            //tokenize the date
            String[] lastTokens = tokens[18].split("-");
            this.lastAirDate = new
Date(Integer.parseInt(lastTokens[1]),
Integer.parseInt(lastTokens[2]),
            Integer.parseInt(lastTokens[0]));
        } else {
            // set to null if no date
            this.lastAirDate = null;
        }

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        this.nEpisodes = tokens[19].isEmpty() ? 0 :
Integer.parseInt(tokens[19].replace("\\\"", ""));
        this.nSeasons = tokens[20].isEmpty() ? 0 :
Integer.parseInt(tokens[20].replace("\\\"", ""));

        // When we catch any errors, we print the line
that was being parsed so we can
        // find the error easily
    } catch (ArrayIndexOutOfBoundsException e) {
        // If there is not enough inputs in the array,
this will catch it
        System.out.println("Not enough elements in the
input: " + inputLine);
    } catch (Exception e) {
        // print the error and the line since we dont
know what the error is
        System.out.println("Unexpected error occurred: "
+ e.getMessage() + " On the line: " + inputLine);
    }
}

@Override
public String toString() {
    return "TVShow [verboseID=" + verboseID + ", id=" + id
+ ", name=" + name + ", originalName=" + originalName
        + ", overview=" + overview + ",
inProduction=" + inProduction + ", originalLanguage=" +
originalLanguage
        + ", firstAirDate=" + firstAirDate + ",
lastAirDate=" + lastAirDate + ", nEpisodes=" + nEpisodes
        + ", nSeasons=" + nSeasons + "]";
}

public String getVerboseID() {
    return verboseID;
}

public void setVerboseID(String verboseID) {
    this.verboseID = verboseID;
}

public int getId() {
    return id;
}

public void setId(int id) {
    this.id = id;
}

```

```
}

public String getName() {
    return name;
}

public void setName(String name) {
    this.name = name;
}

public String getOriginalName() {
    return originalName;
}

public void setOriginalName(String originalName) {
    this.originalName = originalName;
}

public String getOverview() {
    return overview;
}

public void setOverview(String overview) {
    this.overview = overview;
}

public boolean isInProduction() {
    return inProduction;
}

public void setInProduction(boolean inProduction) {
    this.inProduction = inProduction;
}

public String getOriginalLanguage() {
    return originalLanguage;
}

public void setOriginalLanguage(String originalLanguage) {
    this.originalLanguage = originalLanguage;
}

public Date getFirstAirDate() {
    return firstAirDate;
}

public void setFirstAirDate(Date firstAirDate) {
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```

        this.firstAirDate = firstAirDate;
    }

    public Date getLastAirDate() {
        return lastAirDate;
    }

    public void setLastAirDate(Date lastAirDate) {
        this.lastAirDate = lastAirDate;
    }

    public int getnEpisodes() {
        return nEpisodes;
    }

    public void setnEpisodes(int nEpisodes) {
        this.nEpisodes = nEpisodes;
    }

    public int getnSeasons() {
        return nSeasons;
    }

    public void setnSeasons(int nSeasons) {
        this.nSeasons = nSeasons;
    }
}

```

Output:

```

TVShow [verboseID=6457d26c7b901e08b141869d, id=13, name=How do
you like Wednesday?, originalName=水曜どうでしょう, overview=How do
you like Wednesday? was a Japanese television variety series
that aired on the HTB network in Hokkaidō, Japan, and on other
regional television networks in Japan. The program debuted on
HTB on October 9, 1996. The series was one of the first local
variety programs to be produced on Hokkaido; prior to this
series' launch, local variety programs in Hokkaidō were
virtually non-existent. The program also had a significant
influence on other local programs in other regions in Japan,
most notably Kwangaku! in Kansai and Nobunaga in Tokai.\n\nThe
series achieved a record 18.6% viewing share on December 8,
1999, the highest share for a late-night program on a local TV
station.\n\nProduction of the weekly regular series ended in
September 2002, though new limited-run series were produced on

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average of every 18 months; the latest series was shown on HTB in late 2005, eight episodes in length.\n\nMost of the series have been rerun under the names of Dōdeshō Returns and Suiyō Dōdeshō Classic., inProduction=true, originalLanguage=ja, firstAirDate=10/9/1996, lastAirDate=2/16/2022, nEpisodes=568, nSeasons=4]

TVShow [verboseID=6457d26c7b901e08b141867a, id=2, name=Clerks, originalName=Clerks, overview=The continuing adventures of store clerks Dante and Randal, who try to make the best of their menial labor, with no help from Jay and Silent Bob., inProduction=false, originalLanguage=en, firstAirDate=5/31/2000, lastAirDate=12/22/2002, nEpisodes=6, nSeasons=1]

TVShow [verboseID=6457d26c7b901e08b141869f, id=14, name=Shuriken School, originalName=Shuriken School, overview=Shuriken School is a British animated series that first aired on August 20, 2006 on Nickelodeon and then on YTV a few weeks later. It has also been airing on Jetix in the UK since February 2006, as well as on CITV. In the United States, the show aired on Nicktoons Network and Nickelodeon. In Latin America is aired on Jetix., inProduction=false, originalLanguage=en, firstAirDate=8/20/2006, lastAirDate=11/11/2006, nEpisodes=26, nSeasons=1]

TVShow [verboseID=6457d26c7b901e08b14186a5, id=15, name=Mister Rogers' Neighborhood, originalName=Mister Rogers' Neighborhood, overview=Mister Rogers' Neighborhood is an American children's television series that was created and hosted by namesake Fred Rogers. The series originated in 1963 as Misterogers on CBC Television, and was later debuted in 1966 as Misterogers' Neighborhood on the regional Eastern Educational Network, followed by its US network debut on February 19, 1968, and it aired on NET and its successor, PBS, until August 31, 2001. The series is aimed primarily at preschool ages 2 to 5, but has been stated by PBS as appropriate for all ages. Mister Rogers' Neighborhood was produced by Pittsburgh, Pennsylvania, USA public broadcaster WQED and Rogers' non-profit production company Family Communications, Inc.; previously known as Small World Enterprises prior to 1971, the company was renamed The Fred Rogers Company after Rogers' death., inProduction=false, originalLanguage=en, firstAirDate=2/19/1968, lastAirDate=9/7/2001, nEpisodes=850, nSeasons=31]

TVShow [verboseID=6457d26c7b901e08b14186ab, id=16, name=Sidewalks: Video Nite, originalName=Sidewalks: Video Nite, overview=Sidewalks: Video Nite is an American television show featuring music videos. The show is a spin-off from Sidewalks Entertainment.\n\nSidewalks: Video Nite's music format is primarily POP and R&B. The show also airs country, jazz, and hip hop clips., inProduction=false, originalLanguage=en,

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firstAirDate=null, lastAirDate=9/9/2005, nEpisodes=399,
nSeasons=11]
TVShow [verboseID=6457d26c7b901e08b14186ae, id=18,
name=W*A*L*T*E*R, originalName=W*A*L*T*E*R, overview=W*A*L*T*E*R
is a pilot for a spin-off of M*A*S*H made in 1984 that was never
picked up. It starred Gary Burghoff, who reprised his M*A*S*H
character.\n\nThe show relates the adventures of Corporal Walter
O'Reilly after he returns home from the Korean War. He is no
longer calling himself Radar and has moved away from Iowa after
he sent his mother to live with his aunt. Settling in St. Louis,
Missouri, by the beginning of the series he has become a police
officer, though his character is still as in the original
series., inProduction=false, originalLanguage=en,
firstAirDate=7/17/1984, lastAirDate=null, nEpisodes=0,
nSeasons=0]
TVShow [verboseID=6457d26c7b901e08b14186c9, id=25, name=Star
Wars: Droids, originalName=Star Wars: Droids, overview=An
animated television series that features the exploits of R2-D2
and C-3PO. The series takes place between the events depicted in
Star Wars Episode III: Revenge of the Sith and Star Wars Episode
IV: A New Hope., inProduction=false, originalLanguage=en,
firstAirDate=9/7/1985, lastAirDate=11/30/1985, nEpisodes=13,
nSeasons=1]
TVShow [verboseID=6457d26c7b901e08b14186d7, id=27, name=Bratz,
originalName=Bratz, overview=Bratz is a computer-animated
television series, based on a line of toy dolls of the same
name. It is produced by Mike Young Productions and MGA
Entertainment, and premiered on 4Kids TV on the Fox Television
Network., inProduction=false, originalLanguage=en,
firstAirDate=null, lastAirDate=null, nEpisodes=0, nSeasons=2]
TVShow [verboseID=6457d26c7b901e08b14186d8, id=29, name=Mary
Hartman, Mary Hartman, originalName=Mary Hartman, Mary Hartman,
overview=In the fictional town of Fernwood, Ohio, suburban
housewife Mary Hartman seeks the kind of domestic perfection
promised by Reader's Digest and TV commercials. Instead she
finds herself suffering the slings and arrows of outrageous
fortune: mass murders, low-flying airplanes and waxy yellow
buildup on her kitchen floor., inProduction=false,
originalLanguage=en, firstAirDate=1/5/1976,
lastAirDate=3/10/1977, nEpisodes=307, nSeasons=2]
TVShow [verboseID=6457d26c7b901e08b14186ea, id=31, name=French
Fields, originalName=French Fields, overview=French Fields is a
British situation comedy. It ran for 19 episodes from 5
September 1989 to 8 October 1991. It was written by John T.
Chapman and Ian Davidson and was produced by Thames Television
for ITV.\n\nThe series starred Anton Rodgers and Julia McKenzie
as husband and wife William and Hester Fields and followed the
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series Fresh Fields, which ran from 7 March 1984 to 23 October 1986. At the end of the last series of Fresh Fields, William accepted a position with a French company. French Fields follows Hester and William after they make the move to Calais.\n\nOther regular cast included their French real estate agent Chantal, who was also the Fields' neighbour to the left. On the right, were the horrible and snobbish English couple the Trendles. Hester and William also coped with Madame Remoleux, an unintelligible and ancient French woman who lived in and cared for the estate – called Les Hirondelles – where they all lived. Also, popping in on a regular basis, were local farmer and mayor Monsieur Dax and his daughter Marie-Christine, to whom Hester did her best to teach English. Nicholas Courtney also appeared frequently as the Marquis., inProduction=false, originalLanguage=en, firstAirDate=9/5/1989, lastAirDate=10/8/1991, nEpisodes=18, nSeasons=3]

TVShow [verboseID=6457d26c7b901e08b14186ff, id=36, name=Medium, originalName=Medium, overview=Allison Dubois works in the District Attorney's office using her natural intuition about people and her ability to communicate with the dead to help to solve crimes. Her dreams often give her clues to the whereabouts of missing people., inProduction=false, originalLanguage=en, firstAirDate=1/3/2005, lastAirDate=1/21/2011, nEpisodes=130, nSeasons=7]

TVShow [verboseID=6457d26c7b901e08b1418717, id=41, name=Dolly, originalName=Dolly, overview=Dolly is a television variety show that ran on ABC during the 1987-1988 season featuring Dolly Parton., inProduction=false, originalLanguage=en, firstAirDate=9/27/1987, lastAirDate=5/10/1988, nEpisodes=22, nSeasons=1]

TVShow [verboseID=6457d26c7b901e08b1418740, id=48, name=Absolutely, originalName=Absolutely, overview=Absolutely is a popular UK television comedy sketch show shown on Channel 4 between 1989 and 1993.\n\nThe cast and crew were mainly Scottish; the principal writers and performers were Moray Hunter, Jack Docherty, Peter Baikie, Gordon Kennedy, Morwenna Banks and John Sparkes. It was directed by Phil Chilvers, Alan Nixon, Alistair Clark, and Graham C Williams. The show's producers were Alan Nixon, and David Tyler, inProduction=false, originalLanguage=en, firstAirDate=5/23/1989, lastAirDate=2/26/1993, nEpisodes=28, nSeasons=4]

TVShow [verboseID=6457d26c7b901e08b1418749, id=51, name=Houston Knights, originalName=Houston Knights, overview=Houston Knights is an American crime drama set in Houston, Texas. The show ran on CBS from 1987 to 1988 and had 31 episodes. The core of the show was the partnership between two very different cops from two different cultures. Chicago cop Joey LaFiamma, played by

Michael Paré, is transferred to Houston after he kills a mobster from a powerful Mafia family and a contract is put out on him. Once there, he is partnered with Levon Lundy, played by Michael Beck, the grandson of a Texas Ranger.\n\nAlthough as different as night and day, and after a rocky beginning they form a successful partnership and become friends. This is aided to a certain extent by an event where a hitman from Chicago who holds the contract to shoot La Fiamma arrives in Houston and is ultimately killed by Lundy.\n\nDuring the series, it is revealed that both La Fiamma and Lundy have their own personal demons; La Fiamma's Chicago police partner had been killed when he went ahead while La Fiamma had waited for backup to arrive. Lundy's wife had been killed by an explosion that was intended to kill him., inProduction=false, originalLanguage=en, firstAirDate=3/11/1987, lastAirDate=6/7/1988, nEpisodes=31, nSeasons=2]

TVShow [verboseID=6457d26c7b901e08b141875c, id=55, name=North of 60, originalName=North of 60, overview=North of 60 is a mid-1990s Canadian television series depicting life in the sub-Arctic northern boreal forest. It first aired on CBC Television in 1992 and was syndicated around the world. It is set in the fictional community of Lynx River, a primarily Native-run town depicted as being in the Dehcho Region, Northwest Territories. Most of the characters were Dene. Some non-native characters had important roles: the restaurant/motel owner, the band manager, the nurse and the town's main RCMP officer. The show explored themes of Native poverty, alcoholism, cultural preservation and conflict over land settlements and natural resource exploitation. Originally somewhat light-hearted, it quickly became a more dramatic and ponderous series., inProduction=false, originalLanguage=en, firstAirDate=12/3/1992, lastAirDate=1/30/2005, nEpisodes=95, nSeasons=6]

TVShow [verboseID=6457d26c7b901e08b1418761, id=57, name=Angela's Eyes, originalName=Angela's Eyes, overview=FBI agent Angela Clinton has the exceptional gift of knowing when someone is lying. She discovered this skill at age 14, when she learned her average American parents were actually spies. Attempting to right her parents' wrong, Angela is now working with the same agency that brought her parents down., inProduction=false, originalLanguage=en, firstAirDate=7/16/2006, lastAirDate=10/15/2006, nEpisodes=13, nSeasons=1]

TVShow [verboseID=6457d26c7b901e08b1418769, id=59, name=The European Side, originalName=Avrupa Yakası, overview=The life and times of rather traditional Sutcuoglu family and their comedic struggles to adapt the high-profile contemporary life of Nisantasi., inProduction=false, originalLanguage=tr,

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firstAirDate=2/11/2004, lastAirDate=6/24/2009, nEpisodes=191,
nSeasons=6]
TVShow [verboseID=6457d26c7b901e08b141877a, id=64, name=The
Surgeon, originalName=The Surgeon, overview=The Surgeon was an
Australian primetime television Medical drama. It screened at
9:30pm on Thursdays on Network Ten and in Ireland early morning
on RTÉ One. The show was based at a fictional hospital named
Sydney General Hospital.\n\nThe first season consisted of 8
half-hour episodes. The show was not renewed for a second season
due to a number of poor reviews and lack of sufficient ratings.,
inProduction=false, originalLanguage=en,
firstAirDate=10/13/2005, lastAirDate=12/1/2005, nEpisodes=8,
nSeasons=1]
TVShow [verboseID=6457d26c7b901e08b141877d, id=65, name=The Job,
originalName=The Job, overview=Mike McNeil is a decorated New
York City detective whose toughest assignment is himself. He's
struggling to balance a challenging personal life with a job
that leaves him wondering on a daily basis if he is the last
sane person in New York. His unconventional approach to his job
makes him a great cop, even on the most trying days. The only
thing he can't figure out is why, if he's the only sane guy
around, everyone's always looking at him like he's crazy.,
inProduction=false, originalLanguage=en, firstAirDate=3/14/2001,
lastAirDate=4/24/2002, nEpisodes=19, nSeasons=2]
TVShow [verboseID=6457d26c7b901e08b141878c, id=69,
name=Pavarchin, originalName=پاورچین, overview=Pavarchin is an
Iranian television comedy serial. It was broadcast for the first
time by the IRIB in September 2002 until March 2003. It could
usually be seen every night at 8:00 p.m. Tehran time on Tehran
TV, also known as Channel 5 in Iran. Later due to the popularity
of the show, episodes were shown in syndication on various
Iranian provincial channels as well as IRIB 1 & IRIB 2 for those
living out of the country. The show stopped airing in March
2003. It was directed by Mehran Modiri., inProduction=false,
originalLanguage=fa, firstAirDate=9/10/2002,
lastAirDate=10/30/2002, nEpisodes=51, nSeasons=1]
Stats for the shows in the file tvsShort.csv:
    Total number of shows: 20
    Largest number of seasons: 31
    Smallest number of seasons: 0 Average number of seasons:
4.35
Stats for the shows in the file tvsMedium.csv:
    Total number of shows: 80154
    Largest number of seasons: 345
    Smallest number of seasons: 0 Average number of seasons:
1.6097387529006661
Stats for the shows in the file tvs.csv:
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```
Total number of shows: 152969  
Largest number of seasons: 345  
Smallest number of seasons: 0 Average number of seasons:  
1.546032202603142
```

Something to mention is that if no seasons were provided, the amount of seasons was listed as 0, making the smallest number of seasons 0. This is intended, as the smallest number of seasons provided is none.