CSCI 145 -- PA 12

Exception Handling, Text File Processing, & Recursion

Feel free to discuss and help each other out but does not imply that you can give away your code or your answers! You can work with a lab partner for this assignment. **You must always use the required template (JavaClassTemplate.java from Canvas) and output "Author: Your Name(s)" or "Modified by: Your Name(s)" for each program as applicable**.

You can work with a lab partner and each one must submit the same PDF file (include both names in the submission file). Each person must include a brief statement about your contribution to this assignment.

Perform as many exercises from chapter 11 of lab book as possible, but the following lab exercises must be completed. You are not required to turn in written answers to various questions, but it is very helpful in understanding important concepts. You might see those questions on quizzes and exams.

- **Exercise 1**: Placing Exception Handlers
- **Exercise 2**: Reading from and Writing to Text Files; edit the data file and remove the extra 2 from the line "Smart 75 2 92.5" from students.dat.

Perform as many exercises from chapter 12 of lab book as possible, but the following lab exercises must be completed. You are not required to turn in written answers to various questions, but it is very helpful in understanding important concepts. You might see those questions on quizzes and exams.

- **Exercise 3**: Base Conversion
- **Exercise 4**: Printing a String Backwards

Exercise 4: Golf Scores -- Design and implement a program to process golf scores. Obtain ***golf18.txt*** from Canvas for this program. The scores of four golfers are stored in a text file, golf18.txt. The first represents the name of the 4 players. Each additional line represents scores for one hole, and the file contains scores for the 18 holes. There are 5 values in each additional line: par for the hole followed by the number of strokes each golfer used on that hole. Determine the winner (lowest score) and produce a chart showing how well each golfer did (compared to par so a score can be positive or negative). Make sure to handle applicable I/O exceptions. Sample format for output not actual output from the file):

```
Par for this course: 72
Lee:     -3
Smith:   -4 (winner)
```

```
Kim:      +1
Johnson: +3
```

Question 1: List some reasons for handling exceptions in a program.

Question 2: Discuss some advantages and disadvantages of a recursive solution vs. an iterative solution.

Extra Credit: **Golf Scores** -- Design and implement a program to process golf scores. Obtain ***golf3players.txt*** from Canvas for this program. The scores of three golfers are stored in a text file, golf3players.txt. The first represents "par" (average score) and the names of the 3 players. Each additional line represents scores for one hole, and the file contains scores for the 18 holes. There are 4 values in each additional line: par score for the hole followed by the number of strokes (score) for each golfer of that hole. Determine the winner (lowest score) and produce a chart showing how well each golfer did (compared to par so a score can be positive or negative). Make sure to handle applicable I/O exceptions. Sample format for output not actual output from the file):

```
Par:      72
Lee:      -3
Smith:    -4 (winner)
Kim:      +1
```

Fill out and turn in the PA submission file for this assignment (save as PDF format).
