Final Exam : Number of Days

CSE 130: Algorithm Design

Sue is working on a genealogy program that contains several thousand records. For each individual, she has the birth date and the death date. Her program needs to know the age of each individual, measured in days.

Assignment Definition

Create a design for a program to compute how many days are between two dates. The program will:

1. Prompt the user for a date: day, month, year.
2. Prompt the user for another date: day, month, year.
3. Compute how many days are between the two dates. For example, there is 1 day between the 31st of December, 1999 and the 1st of January, 2000.
4. Display the number of days

Note that you have the following functions: `isLeapYear()` and `numDaysInMonth()`. Of course, we want this design to be as efficient as possible… Please do the following:

- Create a representation of a solution to this problem using any combination of design tools presented this semester
- Evaluate the quality of your design using appropriate metrics presented this semester
- Validate the design by applying appropriate quality tools or techniques

Grading

	Exceptional 100%	*Good 90%*	*Acceptable 70%*	*Developing 50%*	*Missing 0%*
Design Quality 60%	The optimal solution was found	A workable solution was found that has acceptable performance characteristics	A correct solution was found with poor performance or a minor flaw exists with the presented solution	Part of the problem was solved but there exists serious issues with the design	The solution as presented is not on track to solve the problem
Tools 10%	The design was unambiguously and clearly described	An appropriate design tool was utilized and the tool was used without error	Minor ambiguity exists in the design presentation or a minor error exists in how the design tool was utilized	The design tool was utilized poorly	The solution does not demonstrate mastery of the design tools of the semester
Metrics 10%	Every nuance of the design was correctly characterized	A suitable metric was utilized and the metric was used without error	A minor error exists in the use of the metric	A serious problem exists in the use of the quality metric	No knowledge of a quality metric was demonstrated
Quality 20%	It is difficult to image how a defect could exist in the code	The design was verified through a suitable application of a quality technique	The design was not adequately verified, but knowledge of quality techniques were demonstrate	Familiarity with quality techniques were demonstrate somewhere in the submitted paper	No knowledge of quality techniques were demonstrated