Project 1 Requirements

Abstract

The objectives, requirements, and relevant information for Project 1 are stated here. Submission of your files is done through the course website.

1 Purpose

The purpose of this project is for you to demonstrate the following:

Capabilities: Basic functional programming skills as evidenced by:

- Code solutions to Exercises 2.5.1, 3.4.1, and 3.4.2
- Session transcripts showing execution results of required test cases
- Explanations as required by each problem
- All source code for each exercise in the appendix

Use of Relevant Tools and Techniques: LaTeX, AUCTeX, emacs, and ML

Deliverables and Evidence: a pdf of your report with *all source files allowing others to reproduce your report, functional programs, and test results.*

2 Project Requirements

Your report shall have the content as illustrated by *Sample Report for Simple ML Example*. Your report will have the following content, in addition to the Title, Author, Date, Abstract, Acknowledgments, Table of Contents, and report chapters and sections covering:

Chapter 1: Executive Summary stating either

1. All requirements are satisfied with a summary of what was done, or
2. Some requirements are not satisfied due to incorrect or incomplete results, with a summary of what is satisfied, what is incomplete, and/or what is incorrect.

Chapter 2: Exercise 2.5.1 with the following sections

2.1 Problem Statement

2.2 Relevant Code

2.3 Test Cases

Chapter 3: Exercise 3.4.1 with the following sections

3.1 Problem Statement

3.2 Relevant Code

3.3 Test Cases

Chapter 4: Exercise 3.4.2 with the following sections

4.1 Problem Statement

4.2 Relevant Code

4.3 Test Cases

Appendix A: Exercise 2.5.1 Source Code
Source code is input to the report using `\lstinputlisting`.

Appendix B: Exercise 3.4.1 Source Code
Source code is input to the report using `\lstinputlisting`.

Appendix C: Exercise 3.4.2 Source Code
Source code is input to the report using `\lstinputlisting`.

3 Relevant Information

3.1 Specific Tests

Exercise 2.4.1 You will run the following test cases

```
(*****************************************************************************)
(* Test Cases                                                                *)
(*****************************************************************************)
timesPlus 100 27;
timesPlus 10 26;
timesPlus 1 25;
timesPlus 2 24;
timesPlus 30 23;
timesPlus 50 200;
```

Exercise 3.4.1 You will execute the code that produces the values of

(a) The list of pairs assigned to *listA*

(b) The ML expression that results in the assignment of values to *e1B* and *listB* as specified

(c) The ML expressions that result in the assignment of values to *elC1, elC2, elC3, elC4,* and *elC5* as specified

You **must** include the results of executing the code as evidence your code satisfies the requirements.

Exercise 3.4.2 You will execute the code as shown in the exercise description and show the results. If the ML expression executes with no error, then show the resulting value. If the ML expression results in an error, then show the error and describe as precisely as possible the nature of the error in your own words.

3.2 Submission Guidelines

Deadline: check course website

Content & format: zipped file of your Project 1 sub-directory containing a pdf of your report and all source files allowing complete reproduction of your report

How submitted: through course website

Other information: you will be allowed an unlimited number of attempts to submit your files up to the deadline. Your grade is based on the last submission.

3.3 Grading Criteria

Exercise	**Problem Statement**	**Code**	**Test Cases**	**Total**
2.5.1	2 points if correct and complete in report	2 points	2 points if complete and correct in report	6 points max
3.4.1	2 points if correct and complete in report	2 points	8 points max	12 points max
3.4.2	2 points if correct and complete in report	2 points	5 points if complete and correct in report	9 points max
Subtotal	6 points max	6 points max	15 points max	27 points max
Folder with all necessary components to reproduce report and all ML transcripts that works				27 points max
			TOTAL	54 points max