CMPS 258 – PROGRAMMING LANGUAGES – SPRING 2021
WEEK 4 ASSIGNMENT

In this assignment, you will use the built-in list iterators with anonymous functions to re-implement some of the functions you implemented in the first assignment. You should only use the following built-in list iterators: `List.map`, `List.filter`, and `List.foldl`. You are not allowed to use case expressions or the list access functions to access the lists.

(1) Re-implement `score` from the first assignment. Do not use the tuple access operator to extract the fields of the tuple. Instead, extract the fields using pattern matching in the function parameter.
(2) Use one of the built-in list iterators to re-implement `scores` from the first assignment.
(3) Use one of the built-in list iterators to re-implement `whoFailedMidterm` from the first assignment.
(4) Use one of the built-in list iterators to re-implement `allPassedFinal` from the first assignment.
(5) Use one of the built-in list iterators to re-implement `countPassedCourse` from the first assignment.
(6) Use one of the built-in list iterators to re-implement `studentsInRange` from the first assignment.

Evaluating a correct homework solution should generate the bindings below. However, keep in mind that generating these bindings does not guarantee that your solutions are correct. Make sure to test your functions before submitting.

```
val score = fn : 'a * 'b * real * real -> real
val scores = fn : ('a * 'b * real * real) list -> ('a * real) list
val whoFailedMidterm = fn
  : ('a * 'b * real * 'c) list -> 'b list
val allPassedFinal = fn : ('a * 'b * 'c * real) list -> bool
val countPassedCourse = fn : ('a * 'b * real * real) list -> int
val studentsInRange = fn
  : ('a * 'b * real * real) list
    -> real * real -> ('a * 'b * real * real) list
```

Assessment
Solutions should be:

- Correct
- In good style, including indentation and line breaks
- Written using features discussed in class

Submission Instructions
Put all your solutions in one SML file and submit it via Moodle. The file should be named "<id>.sml" where <id> is your AUBnet ID (e.g., abc01.sml). Do not submit any other files or compressed folders.