Assignments are due on the due date before class and have to include this cover page. Plagiarism in assignment answers will not be tolerated. By submitting their answers to this assignment, the authors named above declare that its content is their original work and that they did not use any sources for its preparation other than the class notes, the textbook, and ones explicitly acknowledged in the answers. Any suspected act of plagiarism will be reported to the Faculty's Academic Integrity Officer and possibly to the Senate Discipline Committee. The penalty for academic dishonesty may range from failing the course to expulsion from the university, in accordance with Dalhousie University's regulations regarding academic integrity.
**Question 1 (10 marks)** Consider the following scheme program:

```
(define x 0)
(define y 0)
(define (f z) (display (+ z y)))
(define (g f) (let ((y 10)) (f x)))
(define (h) (let ((x 100)) (g f)))
(h)
```

display is a function that prints its arguments, similar to printf. What does this program output for each of the four possible combinations of static and dynamic scoping and shallow and deep binding?

**Question 2 (5 marks)** In class, we discussed how to implement static scoping using a static chain. We discussed how to use the static chain to access a variable we want to update at runtime. What we did not discuss is how to maintain this static chain when we make recursive calls. Your task in this question is to provide the details of computing the static link for a function that is being called, that is, how to find the stack frame the static link of the newly created stack frame needs to point to.