

# CSCI 305 Homework 4

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**Due Date: April 2, 2018 @ Beginning of Class**

**Name:** \_\_\_\_\_

## Memory Locations

1. Write the shortest ML function you can that would not work correctly if implemented using a dynamically allocated stack of activation records plus nesting links. Explain why it would fail.

1. For the following ML function, could the activation record for the function be deallocated as soon as the function returns? Explain why or why not.

```
fun f x = fn y => x + y;
```

2. The following ML function contains a function call that passes a function parameter `f`. Will the function `f` use its nesting link when called? Explain (Assume that the nesting link is *not* used to resolve references to predefined operators (like `+`) and functions (like `map` ).)

```
fun addall n theList =  
  let fun f x = x + n;  
  in map f theList
```

end;