UNIT 0 Final

1. (7 points) Subwords

(a) (3 pt) Write a procedure first-n, which, given a word and a number n, returns the first n letters of the word.

```
STk> (first-n 'submarine 3)
sub
STk> (first-n 'cat 500)
cat
```

(b) (4 pt) Write a procedure subword, which given a word and two numbers i and j, returns the letters of the word from index i to index j. Assume that words are one-indexed (so the first letter is at index 1). Your procedure should not error out if the index is out of range.

Hint: You can assume your first-n procedure works correctly.

```
STk> (subword 'abcde 2 4)
bcd
STk> (subword 'abcde 1 5)
abcde
STk> (subword 'abcde 5 5)
e
STk> (subword 'abcde 100 5)
"
```
2. (3 points) Conditionals

Consider the following if-statement:

```
(if (> x 5)
  #t
  (if (= x 4)
    #t
    (if (> x -2)
      #f
      #t))
)
```

(a) (1 pt) If \(x\) has the value 3, what does this evaluate to? Circle one: true false

(b) (1 pt) Rewrite this if statement using and, or and not

(c) (1 pt) Rewrite this if statement as an equivalent cond-clause: