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COP4002

APPLY TO LOCKHEED CWEP

- All "varialbes" and functions are immutable.

- `++` ← concatenation operator

- `:` ← cons operator, faster than `++` for prepending single values to the front of lists

- `!!` ← index operator to get element from a list

  ```
  l = [1,2,3,4]
  l !! 2 -- returns 3
  ```

- `/=` is the operator for not equal

- `drop n` ← drops `n` number of elements from the head of the list

- since lists are immutable an easy way to change indexes of an array

  - `xs` is just documentation shorthand for "list of elements"

    ```
    changeSubscriptValue xs index newValue = take index xs ++ [newValue] ++ drop (index+1) xs
    ```

- `let` can simplify list comprehensions

  ```
  -- equivalent statements
  -- ANDing is just adding more statements with a comma
  -- ORing requires `||`
  [x*3 | x<-[1..10], x*3 >= 12, x*3 == 9]
  [t3 | x<-[1..10], let t3 = x*3, t3 >= 12, t3 == 9]
  ```

- usage of backtick turns functions into infix operators

  ```
  -- equivalent statments
  mod 19 3 -- returns 1
  19 `mod` 3
  ```

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