; Austin Spencer

; Program #4 in Scheme

; 3 separate programs with functions and helper functions

; 02/04/2020

(define(weightOfWater pipeDiameter length purity)

(\*(\* 3.14159(\* lenght diameter))(/(pureOrSalt purity) 24)))

(define(pureOrSalt purity)

(if purity 62.4 64.08))

(define(weightClass weight)

(cond

((<= weight 115) "Flyweight")

((<= weight 122) "Bantamweight")

((<= weight 130) "Featherweight")

((<= weight 135) "Lightweight")

((<= weight 147) "Welterweight")

((<= weight 168) "Middleweight")

((<= weight 175) "Light Heavyweight")

((<= weight 200) "Cruiserweight")

((> weight 200) "Heavyweight")

)

)

(define(paycheck employeeType hourlyOrSales rate donation)

(-

(if employeeType

(hourly hourlyOrSales rate)

(\*(sales hourlyOrSales) rate)

)

donation)

)

(define(hourly hourlyOrSales rate)

(if (<= hourlyOrSales 40)

(\* hourlyOrSales rate)

(-(\*(hourlyOrSales \* rate) 1.25)(\* 1.25 40))

))

(define(sales hourlyOrSales)

(cond

((< hourlyOrSales 100) .01)

((< hourlyOrSales 1000) .025)

((>= hourlyOrSales 1000) .04)

)

)