**Lab 1**

**SYSC 3101A**

**L3E**

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#lang racket

**; EXERCISE 1**

(define (sum-coins pennies nickels dimes quarters)

(+ (\* pennies 1) (\* nickels 5)

(\* dimes 10) (\* quarters 25))

)

**; EXERCISE 2**

(define (interest balance)

(cond

[(or (< balance 1000) (= balance 1000)) (exact-floor (\* balance 0.04))]

[(or (< balance 5000) (= balance 5000)) (exact-floor (\* balance 0.045))]

[(exact-floor (\* balance 0.05))])

)

**; EXERCISE 3**

(define (balance bank-balance)

(cond

[(or (< bank-balance 1000) (= bank-balance 1000)) (+(exact-floor (\* bank-balance 0.04)) bank-balance)]

[(or (< bank-balance 5000) (= bank-balance 5000)) (+ (exact-floor (\* bank-balance 0.045)) bank-balance)]

[(+ (exact-floor (\* bank-balance 0.05)) bank-balance)])

)

**; EXERCISE 4**

(define (variable\_Interest balance)

(cond

[(> balance 5000) (exact-floor (+ (\* (- balance 5000) 0.05) (\* 4000 0.045) (\* 1000 0.04)))]

[(> balance 1000) (exact-floor (+ (\* (- balance 1000) 0.045) (\* 1000 0.04)))]

[(exact-floor (\* balance 0.04))]

)

)