

Lab1

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```
#lang racket
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```
;; Exercise 1
(define (sum-coins pennies nickels dimes quarters)
  (+ pennies (* 5 nickels) (* 10 dimes) (* 25 quarters)))
```

```
;; Exercise 2
(define (interest balance)
  ;; if balance <=1000, 4% interest
  ;; if balance > 1000 <=5000 , 4.5%
  ;; if balance > 5000, 5%
  ;;NOTE: 5000 doesnt output anything
  (cond
    [(<= balance 1000) (* balance 0.04) ]
    [(and (> balance 1000)(<= balance 5000)) (* balance 0.045) ]
    [(> balance 5000) (* balance 0.05) ]))
```

```
;; Exercise 3
(define (balance accBalance)
  (+ accBalance (interest accBalance)))
```

```
;; Exercise 4
(define (variable_Interest balance)
  (cond
    [(<= balance 1000)(* balance 0.04)]
    [(and (> balance 1000)(<= balance 5000)) (+ (* (- balance 1000) 0.045) 40)]
    [(> balance 5000) (+ (* (- balance 5000) 0.05) 220)]))
```