

; • CSC104 Winter 2020 — Exercise #3 — Print out and fill in by hand, then hand in to the TA at the start of your quiz. •

; UtorID (login ID) :

; Surname :

; Given Name :

; • Part A. Show all the following steps.

; You do not need to include the “• Steps •”, “○”, nor “•” punctuation that DrRacket shows when using `step`.

; Include ALL the underlining of sub-expressions that will change.

; In DrRacket, the `step` operation starts by copying the expression given to `step` so that it can add the underlining

; for that initial expression, but you may save some effort by adding the initial underlining directly to the original

; expression inside `(step ...)` rather than recopying that expression.

```
(step (combine + (map - (range 5))))
```

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```
(step (combine * (map + (range 2 5))))
```

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```
(step (map solid-triangle (range 15 16)))
```

```
(step (combine solid-square (range 10 11)))
```

```
(step (combine rectangle (range 10 40 15)))
```

```
(step (combine list (list text-length "ant" list flip Δ)))
```

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```
(step (map      list (list text-length "ant" list flip Δ)))
```

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```
(step (combine beside (map above (map mirror (list ◊ ◊ ▽)))))
```

```
(step (combine above (map text->image (map text-join (list "ant" "bear" "ox"))))))
```

```
(step (above (text->image (combine text-join (list "ant" "bear" "ox"))))))
```

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• Part B.

For each of the following function definitions, EITHER :

• CIRCLE "Grammatically Incorrect" if it is not a properly formed definition (i.e. causes an error on its own), OR

• FILL IN the two assertions and show the steps for the given function call, including any error message that occurs during those steps.

```
(define (f.1 10)
  (oval 20 10))
```

;Grammatically Incorrect OR

```
(same! (unary? f.1) )
```

```
(same! (binary? f.1) )
```

```
(step (f.1 20))
```

```
(define (f.2 x)
  (oval 20 10))
```

;Grammatically Incorrect OR

```
(same! (unary? f.2) )
```

```
(same! (binary? f.2) )
```

```
(step (f.2 "1000"))
```

```
(define (f.3 "text")
  (text-join "text" "!"))
```

;Grammatically Incorrect OR

```
(same! (unary? f.3) )
```

```
(same! (binary? f.3) )
```

```
(step (f.3 "text"))
```

```
(define (f.4 (list a b))  
  (turn (triangle a) b))
```

;Grammatically Incorrect OR

```
(same! (unary? f.4) )
```

```
(same! (binary? f.4) )
```

```
(step (f.4 (list 10 15)))
```

```
(define (f.5 (list a b))  
  (map circle (list a b)))
```

;Grammatically Incorrect OR

```
(same! (unary? f.5) )
```

```
(same! (binary? f.5) )
```

```
(step (f.5 10 15))
```

```
(define (f.6 a b)  
  (map circle a b))
```

;Grammatically Incorrect OR

```
(same! (unary? f.6) )
```

```
(same! (binary? f.6) )
```

```
(step (f.6 10 15))
```

```
(define (f.7 a b)  
  (map circle (list b a)))
```

;Grammatically Incorrect OR

```
(same! (unary? f.7) )
```

```
(same! (binary? f.7) )
```

```
(step (f.7 10 15))
```

```
(define (f.8 a)  
  (map circle a))
```

;Grammatically Incorrect OR

```
(same! (unary? f.8) )
```

```
(same! (binary? f.8) )
```

```
(step (f.8 (list 10 15)))
```

```
(define (f.9 a)  
  (map circle (list a)))
```

;Grammatically Incorrect OR

```
(same! (unary? f.9) )
```

```
(same! (binary? f.9) )
```

```
(step (f.9 10 20))
```

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```
(define (f.10 a b)  
  scale a b)
```

;Grammatically Incorrect OR

```
(same! (unary? f.10) )
```

```
(same! (binary? f.10) )
```

```
(step (f.10 (star 10) 20))
```

```
(define (f.11 amy)  
  (text-join 'amy "!"))
```

;Grammatically Incorrect OR

```
(same! (unary? f.11) )
```

```
(same! (binary? f.11) )
```

```
(step (f.11 "clara"))
```

```
(define (f.12 amy)  
  (text-join amy "!"))
```

;Grammatically Incorrect OR

```
(same! (unary? f.12) )
```

```
(same! (binary? f.12) )
```

```
(step (f.12 "clara"))
```

```
(define (f.13 amy)  
  amy "amy")
```

;Grammatically Incorrect OR

```
(same! (unary? f.13) )
```

```
(same! (binary? f.13) )
```

```
(step (f.13 "clara"))
```

```
(define (f.14 amy)  
  (text-join amy "amy"))
```

;Grammatically Incorrect OR

```
(same! (unary? f.14) )
```

```
(same! (binary? f.14) )
```

```
(step (f.14 "clara"))
```

```
(define (f.15 amy)  
  (list amy "amy"))
```

;Grammatically Incorrect OR

```
(same! (unary? f.15) )
```

```
(same! (binary? f.15) )
```

```
(step (f.15 "clara"))
```