

; • 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))))
```

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

```
(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 )))
```

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

```
(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")))))
```

• 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.

<pre>(define (f.1 10) (oval 20 10))</pre>	<pre>(define (f.2 x) (oval 20 10))</pre>	<pre>(define (f.3 "text") (text-join "text" "!"))</pre>
<pre>;Grammatically Incorrect OR</pre>	<pre>;Grammatically Incorrect OR</pre>	<pre>;Grammatically Incorrect OR</pre>
<pre>(same! (unary? f.1))</pre>	<pre>(same! (unary? f.2))</pre>	<pre>(same! (unary? f.3))</pre>
<pre>(same! (binary? f.1))</pre>	<pre>(same! (binary? f.2))</pre>	<pre>(same! (binary? f.3))</pre>
<pre>(step (f.1 20))</pre>	<pre>(step (f.2 "1000"))</pre>	<pre>(step (f.3 "text"))</pre>

<pre>(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)))</pre>	<pre>(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))</pre>	<pre>(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))</pre>
<pre>(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))</pre>	<pre>(define (f.8 a) (map circle a)) ;Grammatically Incorrect OR (same! (unary? f.8)) (same! (binary? f.8)) (step (f.8 (list 10 15)))</pre>	<pre>(define (f.9 a) (map circle (list a))) ;Grammatically Incorrect OR (same! (unary? f.9)) (same! (binary? f.9)) (step (f.9 10 20))</pre>
<pre>(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))</pre>	<pre>(define (f.11 amy) (text-join "amy" "!")) ;Grammatically Incorrect OR (same! (unary? f.11)) (same! (binary? f.11)) (step (f.11 "clara"))</pre>	<pre>(define (f.12 amy) (text-join amy "!")) ;Grammatically Incorrect OR (same! (unary? f.12)) (same! (binary? f.12)) (step (f.12 "clara"))</pre>
<pre>(define (f.13 amy) amy "amy") ;Grammatically Incorrect OR (same! (unary? f.13)) (same! (binary? f.13)) (step (f.13 "clara"))</pre>	<pre>(define (f.14 amy) (text-join amy "amy")) ;Grammatically Incorrect OR (same! (unary? f.14)) (same! (binary? f.14)) (step (f.14 "clara"))</pre>	<pre>(define (f.15 amy) (list amy "amy")) ;Grammatically Incorrect OR (same! (unary? f.15)) (same! (binary? f.15)) (step (f.15 "clara"))</pre>