

CSC104 Quiz #6

Name:

Assume that DrRacket has been started up in the Intermediate Student with lambda language, and that the following commands have been run.

```
(require picturing-programs)

; s is a solid red square
(define s (square 20 "solid" "red"))

; switch-red-green : color -> color
; Produce new color with the red and green
; components of c switched, other the same
(check-expect (switch-red-green (make-color 1 2 3 4))
              (make-color 2 1 3 4))
(define (switch-red-green c)
  (make-color
   (color-green c)
   (color-red c)
   (color-blue c)
   (color-alpha c)))
```

For full marks, describe or draw what is produced by 3 out of 4 of the following commands. You may find it useful to know that `(list-ref (image->color-list s) 7)` produces `(make-color 255 0 0 255)`.

1. `(map-image switch-red-green s)`

Solution: A solid green square (of size 10)

2. `(map-image
 switch-red-green
 (map-image switch-red-green s))`

Solution: A solid red square (of size 10)

3. `(color-list->bitmap
 (image->color-list s) 4 100)`

Solution: A solid red rectangle 4 dots wide by 100 dots tall

4. `(list-ref (image->color-list s) 3)`

Solution: `(make-color 255 0 0 255)`