

CSC104 Quiz #4

Name:

Assume that DrRacket has been started up in the Intermediate Student with lambda language, and that the following commands been run (pic:hacker and pic:calendar are images provided by picturing-programs):

```
(require picturing-programs)

; sub100 : number -> number
; Produce n minus 100
(check-expect (sub100 150) 50)
(define (sub100 n) (- n 100))

; rotate30 : image -> image
; Produce im rotated 30 degrees ccw
(check-expect (rotate30 pic:hacker) (rotate 30 pic:hacker))
(define (rotate30 im) (rotate 30 im))

; animal is a structure with boolean, number, and number parts
(define-struct animal (fur stomachs feet))
(define cow (make-animal true 7 4))
```

For full marks, describe or draw what is produced by 5 out of 6 of the following commands:

1. (first (rest (rest (list 3 5 7 9))))
2. (reverse (rest (list 1 2 3 4 5)))
3. (animal-stomachs cow)
4. (map add1 (list 3 5 7 9))
5. (map sub100 (list 150 175 200 300))
6. (map rotate30 (list pic:hacker pic:calendar))