

Dr. Scheme Assignment: Draw7

Save as: draw7_lastname.scm

1. Type all the words written below. When you EXECUTE the DrScheme program if you encounter an error, compare your typed file with the code and find your error!
2. After successfully running this code, change the canvas numbers, mid-x and mid-Y.
3. Next change the values in the centerCircle command.
4. Save your file and copy to the Computer Student Work Folder
5. You may then work on Draw3 or Draw4 coding and typing of code.

```
;;Creates a canvas size 800 x 600
(start 800 600)

;;(define CONSTANT value)
(define mid-X 400)
(define mid-Y 300)

;;backgroundColor: color -> Boolean (rectangle)
;;Draws a rectangle 800 x 600 to create the background color under the concentric circles
(define (backgroundColor color)
  (draw-solid-rect (make-posn 0 0) 800 600 color))
(backgroundColor 'yellow)

;;centerCircle: number color -> Boolean
;;Draws a circle in the center of a canvas size 800 by 600 of variable size and color
(define (centerCircle radius color)
  (draw-circle (make-posn mid-X mid-Y) radius color))

;;centerCircles number number color -> Boolean
;;Draws concentric circles in center of a web canvas whose radius is incremented
(define (centerCircles radius increment color)
  (and (centerCircle radius color)
       (centerCircle (+ radius increment) color)
       (centerCircle (+ radius (* increment 2)) color)
       (centerCircle (+ radius (* increment 3)) color)))

;(centerCircles 10 15 'blue)

;;concentricCircles: posn number number color -> Boolean
;;Draws concentric circles recursively
(define (concentricCircles position radius increment color)
  (cond
    [(< radius 5) true]
    [else (and (draw-circle position radius color)
                (concentricCircles position (- radius increment) increment color))]))

(concentricCircles (make-posn 400 300) 650 25 'blue)
```