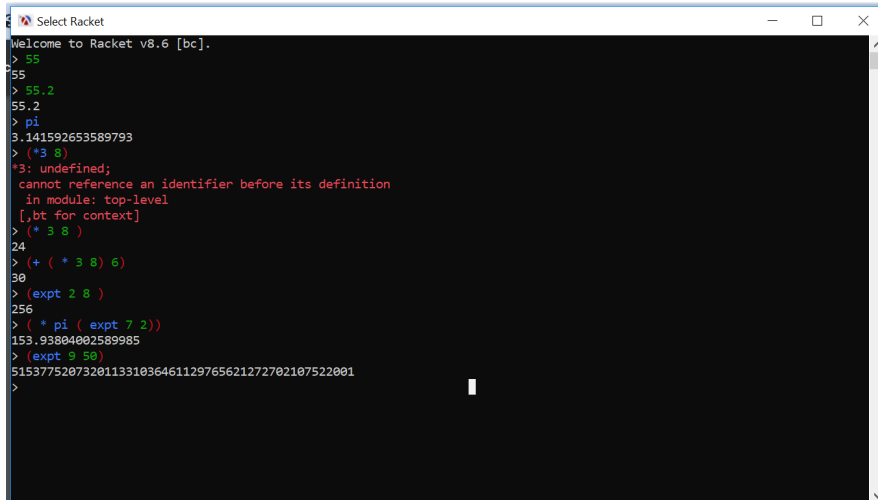


CSC344 Racket Assignment 1

This assignment served as an introduction to some of the functions and syntax of the racket coding language. Several tasks were completed to become familiar with the language.

Task 1:

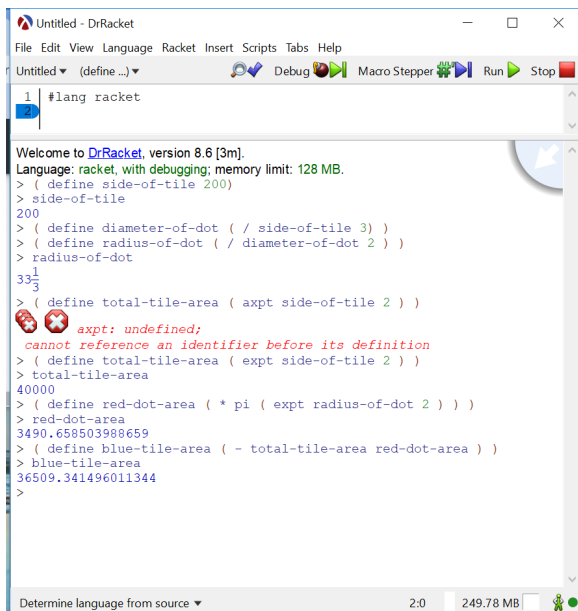
The first task in the assignment was to mimic a short script to process some simple calculations.



```
Select Racket
Welcome to Racket v8.6 [bc].
> 55
55
> 55.2
55.2
> pi
3.141592653589793
> (* 3 8)
+3: undefined;
cannot reference an identifier before its definition
in module: top-level
[.bt for context]
> (* 3 8)
24
> (+ (* 3 8) 6)
30
> (expt 2 8)
256
> (+ pi (expt 7 2))
153.93884002589985
> (expt 9 50)
515377520732011331036461129765621272702107522001
>
```

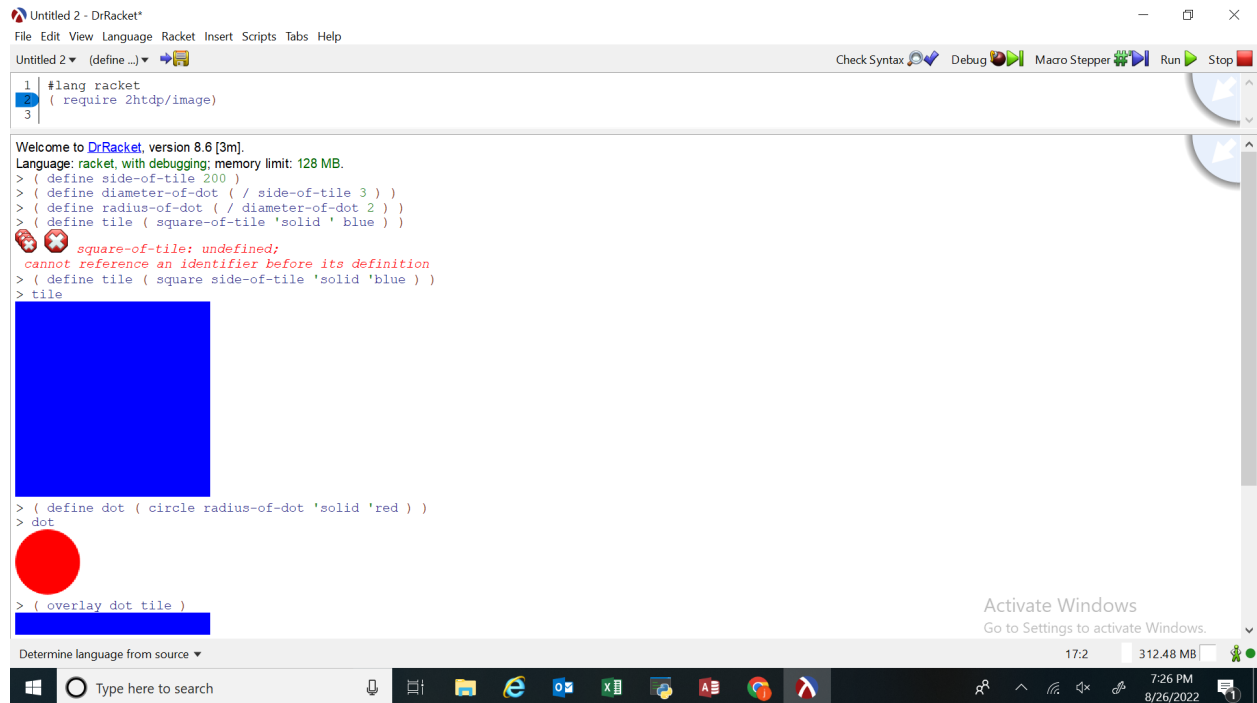
Task 2:

The second task was to mimic a calculation of area given a singular measurement of a shape and the dimensions of other shapes via comparison to the first shape.



```
Untitled - DrRacket
File Edit View Language Racket Insert Scripts Tabs Help
Untitled (define...) Debug Macro Stepper Run Stop
1 #lang racket
2
Welcome to DrRacket, version 8.6 [3m].
Language: racket, with debugging; memory limit: 128 MB.
> (define side-of-tile 200)
> side-of-tile
200
> (define diameter-of-dot (/ side-of-tile 3))
> (define radius-of-dot (/ diameter-of-dot 2))
> radius-of-dot
33.33333333333333
> (define total-tile-area (expt side-of-tile 2))
+3: undefined;
cannot reference an identifier before its definition
> (define total-tile-area (expt side-of-tile 2))
40000
> (define red-dot-area (* pi (expt radius-of-dot 2)))
> red-dot-area
3490.658503908659
> (define blue-tile-area (- total-tile-area red-dot-area))
> blue-tile-area
36509.341496011344
>
Determine language from source 2:0 249.78 MB
```

Task 3: The third task was to then create the shapes from task 2 and display them to the screen.



```
1 #lang racket
2 (require 2htdp/image)
3
```

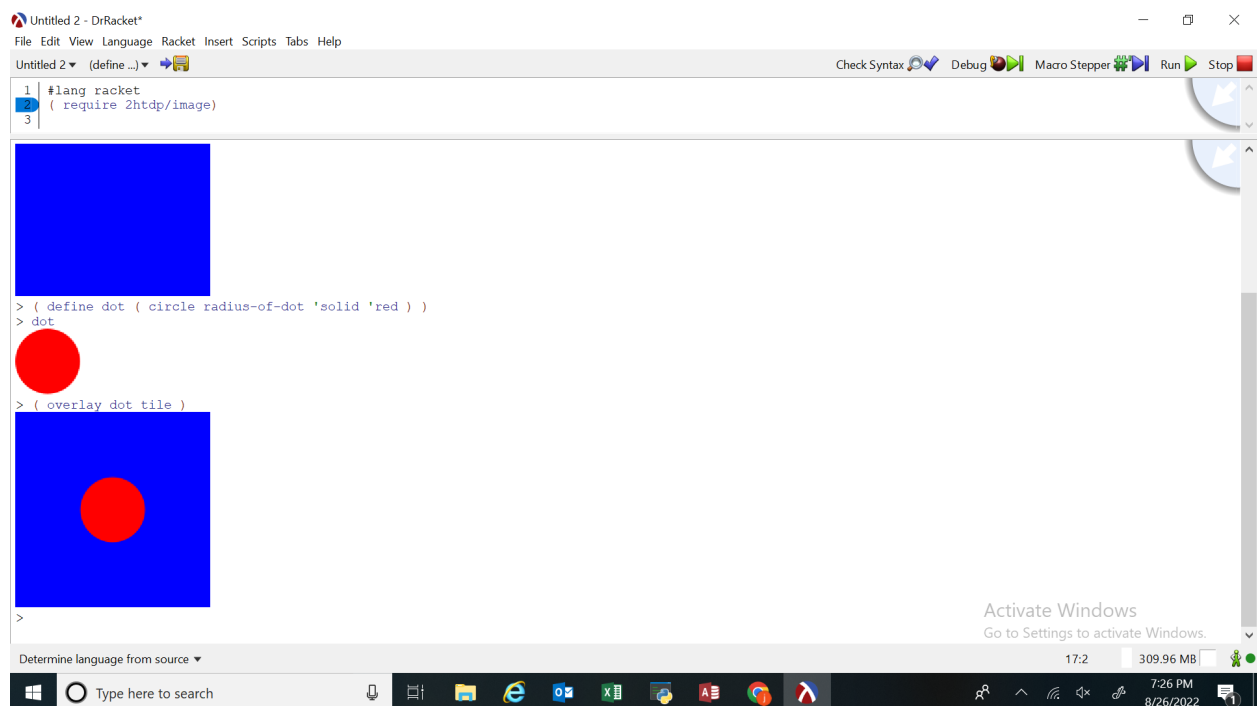
Welcome to **DrRacket**, version 8.6 [3m].
Language: racket, with debugging; memory limit: 128 MB.

```
> (define side-of-tile 200)
> (define diameter-of-dot (/ side-of-tile 3))
> (define radius-of-dot (/ diameter-of-dot 2))
> (define tile (square-of-tile 'solid 'blue))
square-of-tile: undefined;
cannot reference an identifier before its definition
> (define tile (square side-of-tile 'solid 'blue))
> tile
```

> (define dot (circle radius-of-dot 'solid 'red))
> dot

```
> (overlay dot tile)
```

17:2 312.48 MB 7:26 PM 8/26/2022



```
1 #lang racket
2 (require 2htdp/image)
3
```

Welcome to **DrRacket**, version 8.6 [3m].
Language: racket, with debugging; memory limit: 128 MB.

```
> (define side-of-tile 200)
> (define diameter-of-dot (/ side-of-tile 3))
> (define radius-of-dot (/ diameter-of-dot 2))
> (define tile (square-of-tile 'solid 'blue))
square-of-tile: undefined;
cannot reference an identifier before its definition
> (define tile (square side-of-tile 'solid 'blue))
> tile
```

> (define dot (circle radius-of-dot 'solid 'red))
> dot

```
> (overlay dot tile)
```

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Task 4: The fourth task was to create a display of circles overlapping each other in two colors in various sizes. Given a dimension of the first circle and a comparison of the subsequent circles to the first circle or a circle whose dimensions are calculable.

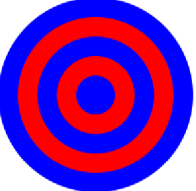
Untitled 2 - DrRacket*

File Edit View Language Racket Insert Scripts Tabs Help

Untitled 2 (define ...) Check Syntax Debug Macro Stepper Run Stop

```
1 | #lang racket
2 | ( require 2htdp/image)
3 |
```

#<procedure:>
#<procedure:>
#<procedure:>
#<procedure:>
#<procedure:>
#<procedure:>
#<procedure:>
#<procedure:>
#<procedure:>



```
> ( define area-big-blue ( * pi ( expt starting-radius 2 ) ) )
> ( define area-red-one ( * pi ( expt red-one-radius 2 ) ) )
> ( define area-blue-two ( * pi ( expt blue-two-radius 2 ) ) )
> ( define area-red-two ( * pi ( expt red-two-radius 2 ) ) )
> ( define area-blue-three ( * pi ( expt blue-three-radius 2 ) ) )
> ( define blue-area ( - ( + area-big-blue area-blue-two area-blue-three ) ( + area-red-one area-red-two ) ) )
> blue-area
18849.555921538755
>
```

Determine language from source ▼ 117.2 295.08 MB

Activate Windows
Go to Settings to activate Windows.

Type here to search

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8/26/2022