

First Racket Programming Assignment


Abstract

This page includes images of various interactive sessions within the DrRacket program. These sessions serve as a way to demo the usage of Racket and the DrRacket program. The images below are printed outputs from the Read-Eval-Print-Loop, REPL, of the DrRacket program. The first couple sessions demonstrate some basics of Racket while the Target session includes some problem-solving.

First Interactive Session

```
> 5
5
> 5.3
5.3
> (* 3 10)
30
> (+(* 3 10))
30
> (+ (* 3 10) 4)
34
> (* 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9)
12157665459056928801
```

Second Interactive Session

```
> pi|
3.141592653589793
> side
 side: undefined;
cannot reference an identifier before its definition
> (define side 100)
> side
100
> (define square-area (* side side))
> square-area
10000
> (define radius (/ side 2))
> radius
50
> (define circle-area (* pi radius radius))
> circle-area
7853.981633974483
> (define scrap-area (- square-area circle-area))
> scrap-area
2146.018366025517
```

Third Interactive Session

```
> (require 2htdp/image)
> (define side 100)
> (define the-square (square side "solid" "silver"))
> the-square
```



```
> (define radius (/ side 2))

> (define the-circle (circle radius "solid" "white"))
> (define the-image (overlay the-circle the-square))
> the-image
```



Fourth Interactive Session

```
> (require 2htdp/image)
> (define radius 100)
> (define large-circle (circle radius "solid" "red"))
> large-circle
```



```
> (define diameter (* radius 2))
> (define med-radius (/ (* diameter .75) 2))
> (define med-circle (circle med-radius "solid" "blue"))
> med-circle
```

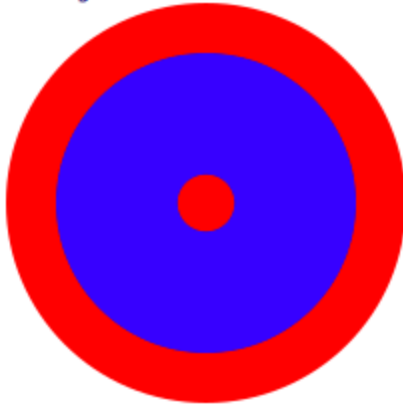


```
> (define small-radius (/ (* diameter (/ 1 7)) 2))
> (define small-circle (circle small-radius "solid" "red"))
> small-circle
```



```
> (define target (overlay small-circle med-circle
large-circle))
```

```
> target
```



```
>
```

Fifth Interactive Session

```
> (define large-radius 100)
> (define large-diameter (* large-radius 2))
> (define med-radius (/ (* large-diameter .75) 2))
> med-radius
75.0
> (define small-radius (/ (* large-diameter (/ 1 7)) 2))
> small-radius
142/7
> (define large-area (* pi large-radius large-radius))
> large-area
31415.926535897932
> (define med-area (* pi med-radius med-radius))
> med-area
17671.458676442588
> (define small-area (* pi small-radius small-radius))
> small-area
641.141357875468
> (define red-area (+ (- large-area med-area) small-area))
> red-area
14385.609217330812
> (define red-percent (/ red-area large-area))
> (define red-percent (* (/ red-area large-area) 100))
> red-percent
45.79081632653061
> |
```