## First Racket Programming Assignment Solution

## Learning Abstract

In this assignment I learned a little bit about numeric computations in Lisp. I also learned how to bind variables to values. I solved a couple of numeric problems by using basic arithmetic operations. And I learned to use a Racket library to create and display shapes so that I could render the problem situations graphically. All of this took place within the Interactions pane of the DrRacket PDE.

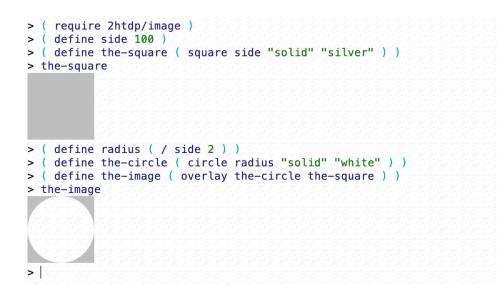
## Interaction: Simple Numeric Processing

## Interaction: Solution to the Scrap Problem

**The Scrap Problem**: A circular disk of maximal size is cut from a square piece of tin of side 100 units. What is the area of the scrap?

```
> 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
>
```

Interaction: Illustration of Scrap Problem Situation



Interaction: Illustration of the Target Problem Situation

 $\rightarrow$ the work goes here $\leftarrow$ 

Interaction: Solution to Target Problem

 $\rightarrow$ the work goes here $\leftarrow$