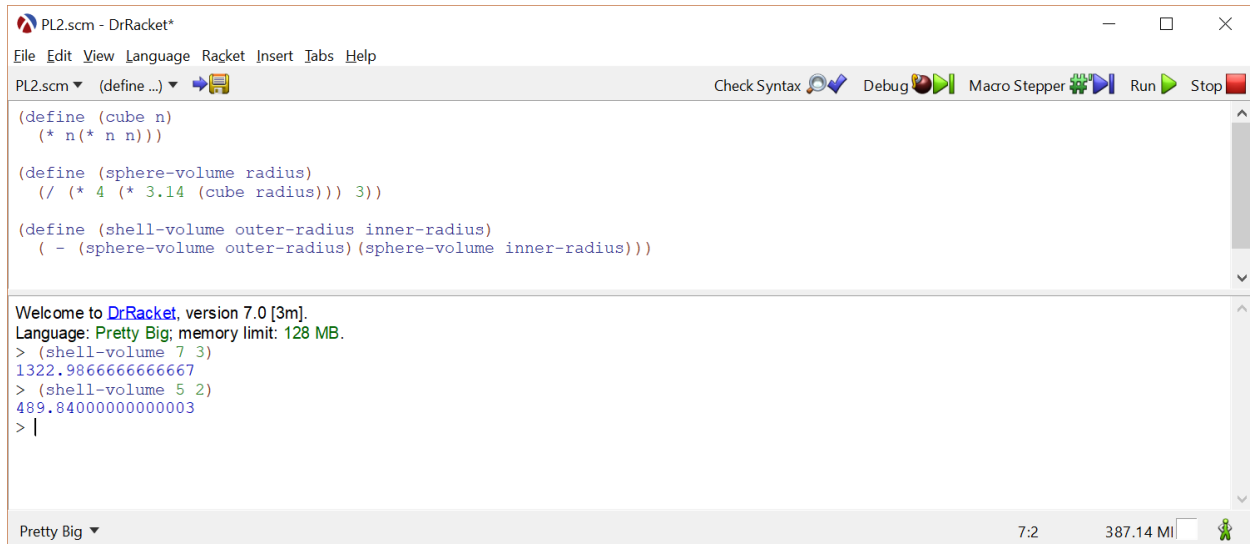


Problem 1.



The screenshot shows the DrRacket IDE window titled "PL2.scm - DrRacket*". The menu bar includes File, Edit, View, Language, Racket, Insert, Tabs, and Help. The toolbar contains icons for Check Syntax, Debug, Macro Stepper, Run, and Stop. The code editor contains the following Racket code:

```
(define (cube n)
  (* n (* n n)))

(define (sphere-volume radius)
  (/ (* 4 (* 3.14 (cube radius))) 3))

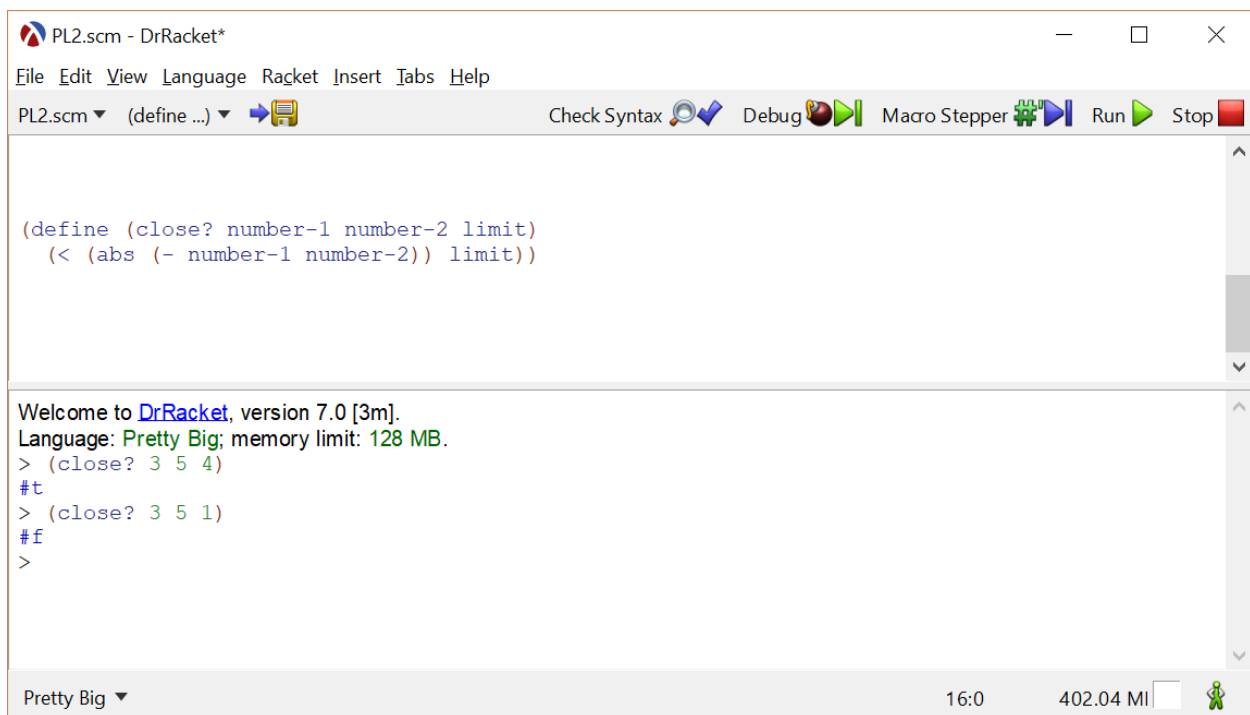
(define (shell-volume outer-radius inner-radius)
  (- (sphere-volume outer-radius) (sphere-volume inner-radius)))
```

The output window shows the following text:

```
Welcome to DrRacket, version 7.0 [3m].
Language: Pretty Big; memory limit: 128 MB.
> (shell-volume 7 3)
1322.9866666666667
> (shell-volume 5 2)
489.84000000000003
> |
```

The status bar at the bottom indicates "Pretty Big" as the language, with a time of 7:2 and memory usage of 387.14 MB.

Problem 2.



The screenshot shows the DrRacket IDE window titled "PL2.scm - DrRacket*". The menu bar includes File, Edit, View, Language, Racket, Insert, Tabs, and Help. The toolbar contains icons for Check Syntax, Debug, Macro Stepper, Run, and Stop. The code editor contains the following Racket code:

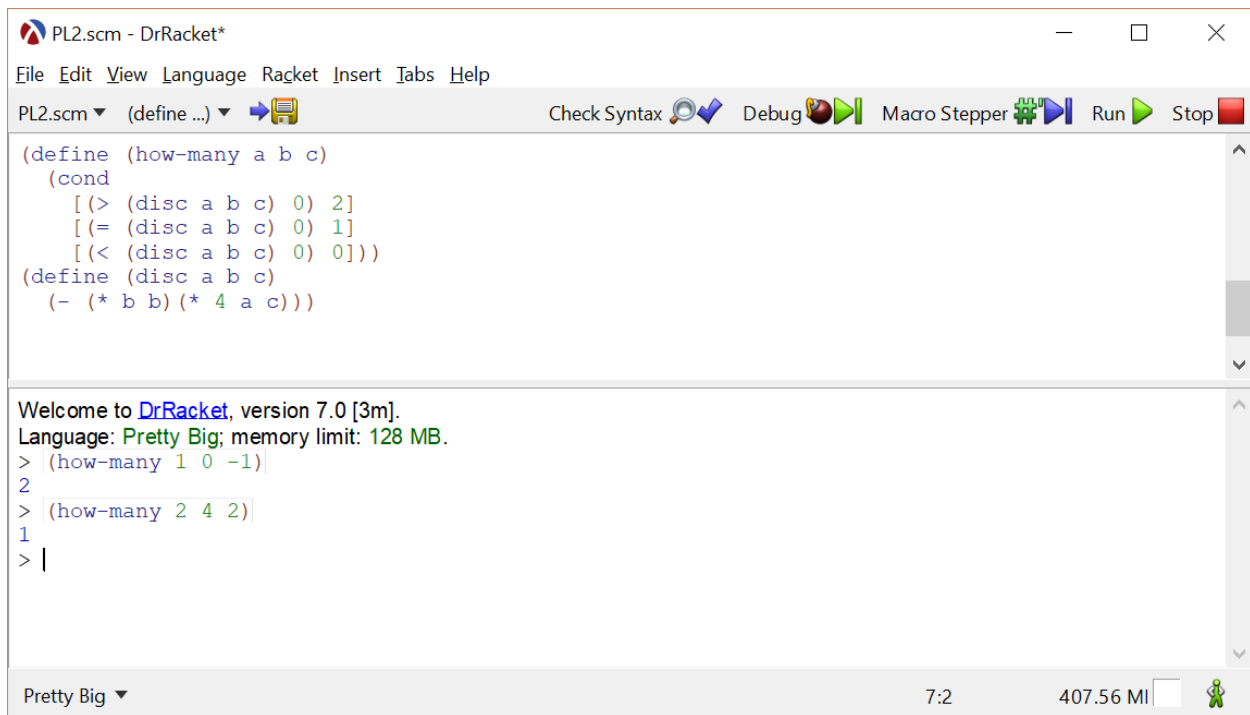
```
(define (close? number-1 number-2 limit)
  (< (abs (- number-1 number-2)) limit))
```

The output window shows the following text:

```
Welcome to DrRacket, version 7.0 [3m].
Language: Pretty Big; memory limit: 128 MB.
> (close? 3 5 4)
#t
> (close? 3 5 1)
#f
>
```

The status bar at the bottom indicates "Pretty Big" as the language, with a time of 16:0 and memory usage of 402.04 MB.

Problem 3.



PL2.scm - DrRacket*

File Edit View Language Racket Insert Tabs Help

PL2.scm (define ...) Check Syntax Debug Macro Stepper Run Stop

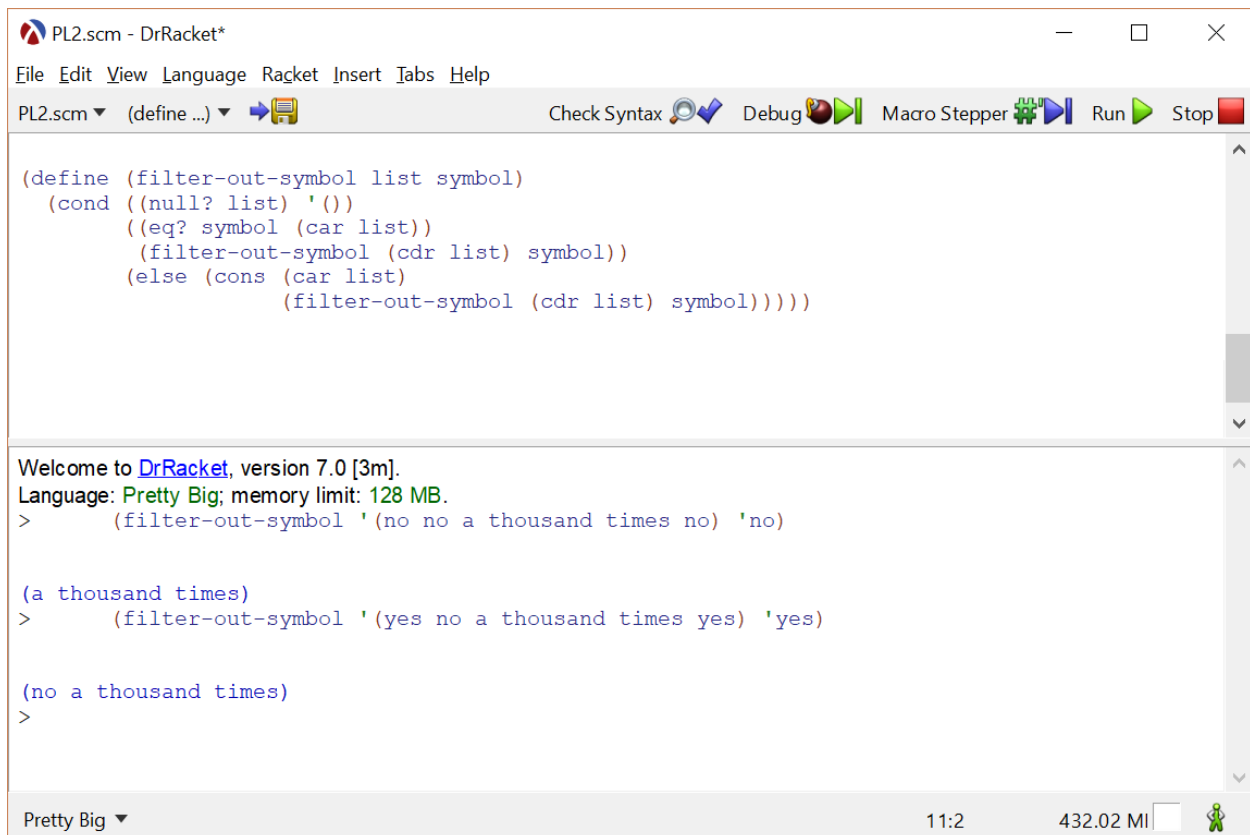
```
(define (how-many a b c)
  (cond
    [(> (disc a b c) 0) 2]
    [(= (disc a b c) 0) 1]
    [(< (disc a b c) 0) 0]))
(define (disc a b c)
  (- (* b b) (* 4 a c)))
```

Welcome to [DrRacket](#), version 7.0 [3m].
Language: **Pretty Big**; memory limit: 128 MB.

```
> (how-many 1 0 -1)
2
> (how-many 2 4 2)
1
> |
```

Pretty Big 7:2 407.56 MiB

Problem 4.



PL2.scm - DrRacket*

File Edit View Language Racket Insert Tabs Help

PL2.scm (define ...) Check Syntax Debug Macro Stepper Run Stop

```
(define (filter-out-symbol list symbol)
  (cond ((null? list) '())
        ((eq? symbol (car list))
         (filter-out-symbol (cdr list) symbol))
        (else (cons (car list)
                      (filter-out-symbol (cdr list) symbol)))))
```

Welcome to [DrRacket](#), version 7.0 [3m].
Language: **Pretty Big**; memory limit: 128 MB.

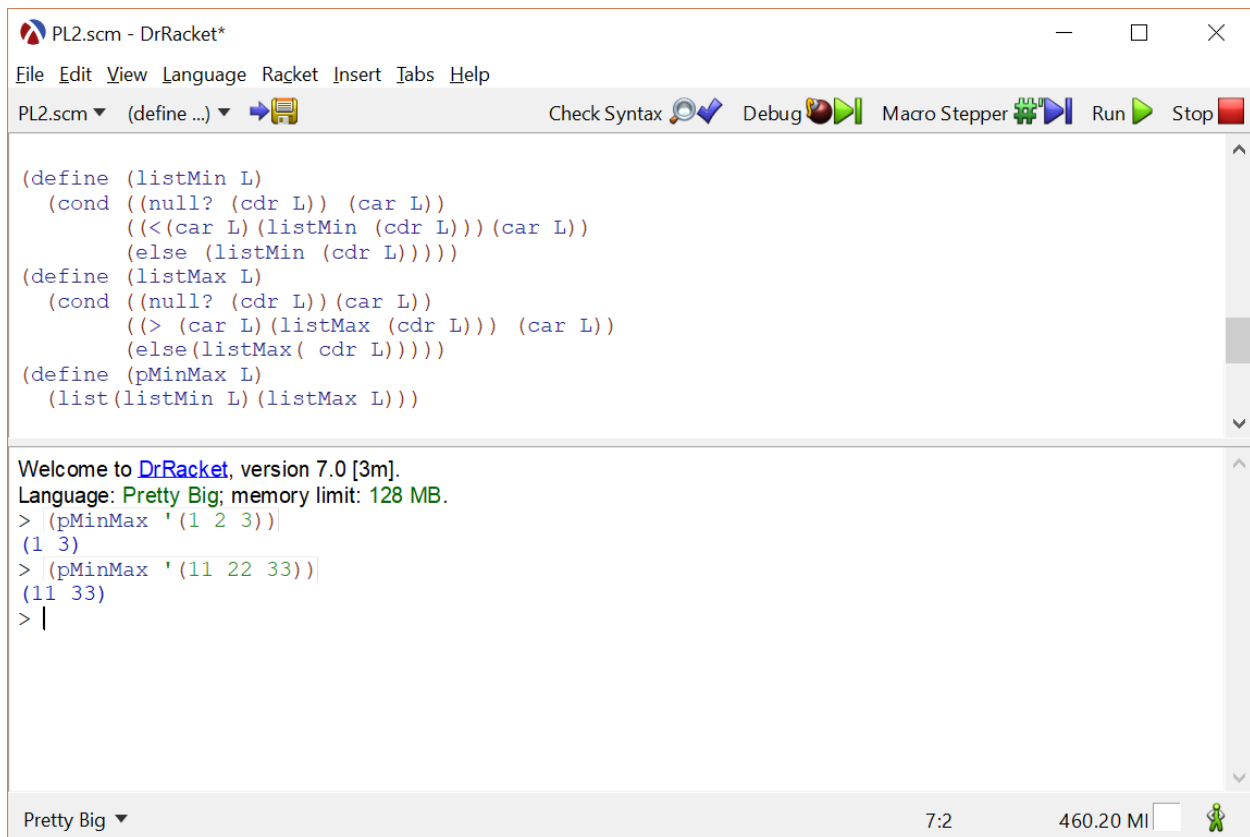
```
> (filter-out-symbol '(no no a thousand times no) 'no)

(a thousand times)
> (filter-out-symbol '(yes no a thousand times yes) 'yes)

(no a thousand times)
>
```

Pretty Big 11:2 432.02 MiB

Problem 5.



PL2.scm - DrRacket*

File Edit View Language Racket Insert Tabs Help

PL2.scm (define ...) Check Syntax Debug Macro Stepper Run Stop

```
(define (listMin L)
  (cond ((null? (cdr L)) (car L))
        ((< (car L) (listMin (cdr L))) (car L))
        (else (listMin (cdr L)))))
(define (listMax L)
  (cond ((null? (cdr L)) (car L))
        ((> (car L) (listMax (cdr L))) (car L))
        (else (listMax (cdr L)))))
(define (pMinMax L)
  (list (listMin L) (listMax L)))
```

Welcome to [DrRacket](#), version 7.0 [3m].
Language: **Pretty Big**; memory limit: 128 MB.

```
> (pMinMax '(1 2 3))
(1 3)
> (pMinMax '(11 22 33))
(11 33)
> |
```

Pretty Big 7:2 460.20 MI

Problem 6.

PL2.scm - DrRacket*

File Edit View Language Racket Insert Tabs Help

PL2.scm (define ...) Check Syntax Debug Macro Stepper Run Stop

```
(define (inc_n n)
  (lambda (x) (+ n x)))
```

Welcome to [DrRacket](#), version 7.0 [3m].
Language: **Pretty Big**; memory limit: 128 MB.

```
> ((inc_n 3) 2)
5
> ((inc_n -2) 3)
1
> |
```

Pretty Big 7:2 511.27 MiB