

Programming Assignment Week 12:

1. (90pts) Write a Scheme (Using Dr. Racket) program to perform binary search.

Sample Data Pattern:

```
(define alist '(1 3 7 9 12 18 20 23 25 37 46))
```

Test -2, 9, 16, 37

Sample Output :

```
> (binary alist -2)
```

```
-1
```

```
> (binary alist 9)
```

```
3
```

```
> (binary alist 16)
```

```
-1
```

```
> (binary alist 37)
```

```
9
```

2. (60pts) Write a Scheme program which can reverse a list

Sample List :

```
(define x '(1 2 3 4 5))
```

```
(reverse x)
```

Sample Output :

```
'(5 4 3 2 1)
```