Lab 4.1 – Basic Rectangles involving Malloc

Learning Goals

1) Develop your ability to use malloc to request memory on the heap.
2) Develop your ability to use "struct" and "typedef" to define memory structures.
3) Develop your ability to use pointers and their dereferencing notations.

Your Task

Implement **rect.c**.

The interface **rect.h** has been provided for you.

The test program **rectTest.c** has also been provided for you.

Note that both **createRect** and **copyRect** create new rectangles. Therefore, both are required to call malloc. **copyRect** performs what is common referred to as a deep copy.

Sample Outputs

Your output should match the following exactly.

```
$ ./a
R1 : Rectangle: (7.0,8.0); (0.0,12.0)
R1 Area = 28.0
R1 Perimeter = 22.0

R2 : Rectangle: (15.0,12.0); (-6.0,24.0)
R2 Area = 252.0
R2 Perimeter = 66.0

R3 : Rectangle: (9.0,18.0); (15.0,3.0)
R3 Width = 6.0
R3 Height = 15.0
R3 Area = 90.0
R3 Perimeter = 42.0
```