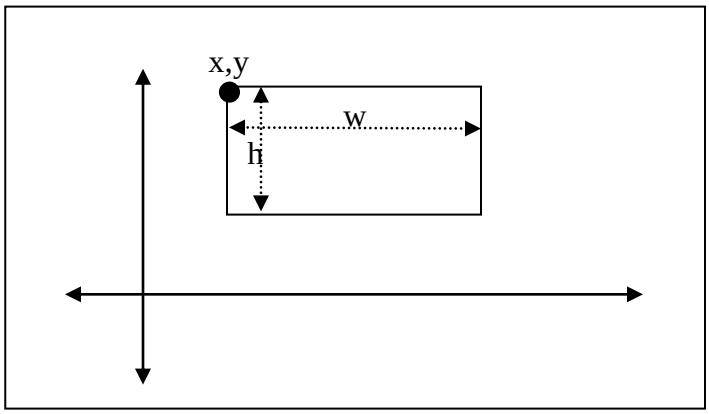
CS 1713 - 002 Intro to Programming II Recitation – Exercise

Due date: check BB Learn

Struct, Dynamic memory - functions

- Define a struct Rect as follows:

```
typedef struct Rect
{
     double x;
     double y;
     char color;
     double w; //width;
     double h; //height;
} RectT;
```



- Write a program that declares `RectT a, b, *recs;` and asks user to enter `x, y, w, h` for both `a` and `b`.

- Write a function `int chk_overlap(RectT *r1, RectT *r2)` which can be called to check if `a` and `b` overlap or not. If so return 1, else return 0.

- Dynamically create an array of 50 rectangles and save their address in `recs`. Then randomly initialize `x, y, w, h` of each rectangle (e.g., `recs[i].x = rand()%20`; etc...)

- Count/print how many of these rectangles overlap with `a` or `b`.

After implementing the program

- Run it with valgrind to see memory usage info

  > valgrind myprog

- Free the allocated memory then run it again with valgrind

- Compile your program with –g option and use gdb and ddd

You must submit your work using Blackboard Learn and respect the following rules:

1) All assignments must be submitted as either a zip or tar archive file unless it is a single pdf file.
2) Assignments must include all source code.
3) Assignments must include an output.txt file which demonstrates the final test output run by the student.
4) If your assignment does not run/compile, the output.txt file should include an explanation of what was accomplished, what the error message was that prevented the student from finishing the assignment and what the student BELIEVES to be the underlying cause of the error.