CS 110 - Spring 2012
Problem Set 1

1) (10) Write an expression that draws an ellipse with width 100 and height 50 and a center point that matches the center point of the sketch window, irrespective of the size of the sketch window.
2) (10) Write three statements that could be used to replace the statement background (127). Hint, use the rect() function as one of your three statements.
3) (10) Write expressions that draw a red rectangle that covers the upper left quadrant, green rectangle that covers the upper right quadrant, blue rectangle that covers the lower left quadrant and white rectangle that covers the lower right quadrant of the sketch window, irrespective of the size of the sketch window.
4) (15) Modify your above answer to 3) to draw the four rectangles with a cross-shaped overlap in the center with blended color - see picture. The size of the overlap should also be proportional to sketch width and height, say $1 / 10$ of width in the $x$ direction and $1 / 10$ of height in the $y$ direction. Use variables, don't hard-code.

5) (10) Draw an arc with a blue stroke and no fill. The curve should start at an angle of 90 degrees, and end at 180 degrees. The arc can have any size and be drawn at any location.
6) (10) Write a conditional expression that prints one of three lines depending on the value a variable named 'porridge'. If porridge is greater than 100 print "too hot." If porridge is less than 50 print "too cold". Otherwise, print "just right."
7) (10) Write an iteration that will sum the integers from 1 to 100 and store the result in a variable called sum.
8) (15) What do the following statements print?
```
for (int i=0; i<5; i++) {
        for (int j=0; j<i; j++) {
            println(i+j);
        }
        println();
}
```

9) (10) Translate the following while loop to an equivalent for loop:
```
int n = 0;
while (n < 5) {
    println(n);
    n = n+1;
}
```

