# Lab 3

The objective of lab 3 was to program the FPGA board to display a bouncing ball on a VGA monitor.

##Modifications

### In the new *ball\_1* file, the if statement in the *bdraw* process is rewritten into an equation for a circle taking into account the pixel columns and rows(*pixel\_col* & *pixel\_row*) and the position of the ball(*ball\_x* & *ball\_y*) which will allow for the ball to be circular instead of a square and a specific size. The signal variable *ball\_x\_motion* was also incorporated to allow the ball to move horizontally in addition to moving vertically. We also set the *red* and *blue* to 1 to allow only those colors to show which changed the color of the ball to purple.