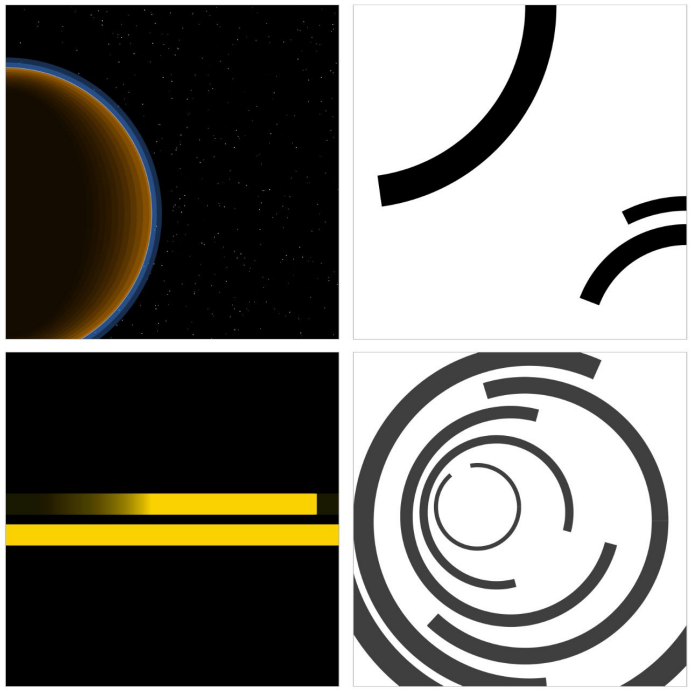
// DES 111 // Project 2: inMotion // 60 points //



// Overview

Use Variables and Conditionals to create animations. Choose any three designs or graphic elements **from Project 1**: **drawIt**. Iterate the design to explore time-based design to create complex interaction between the shapes and colors. Push the limits within the codes discussed in class to create four animations: 1 autostart, 1 with timed events, 1 color change over time, and 1 with mouse location interaction. ☺

// Process to Follow

1. Sketch each design on white unruled paper (or your sketchbook). For each animation, sketch 10-20 thumbnails that indicate the progression of motion.
2. Transfer design to graph paper to plan out the math.
3. Write pseudocode next to the design on graph paper.
4. Translate pseudo code to Processing code.

*

Begin all sketches with comments that include your name, date and a description of the sketch.

Use any canvas size or width/height ratio.
Focus on design principles, Push the limit with given tools.

Keep all techniques within the chapter topics (no loops, custom functions, etc)

Helpful code:

Basic functions

```
void setup(){
  //initialization
  //such as size, background
}

void draw(){
  //code that repeats forever
  //such as shapes and movements
}
```

Variables:

```
int x; //declaration only
x = 5;//initialization
int x =5;//declaration and initialization
rect(x, 100, 20, 20);
```

System variables:

```
mouseX    // x location of mouse
mouseY   // y location of mouse
width  // width of canvas
height  // height of canvas
```

Conditionals:

```
if (test) {
   statements;
}else {
  statements;
}
```

Operators:

```
== (checks for equality)
!= (checks for inequality)
|| (logical or)
&& (logical and)
++ (increment by 1)
+= (add to the current value)
-- (decrease by 1)
-= (decrease from current value)
```

Simple equality tests:

```
    (5 == 6) false
    (5 == 5) true
```

Relational tests:

```
    (5 < 6) true
    (5 > 5) false
    (5 <= 5) true
```

Logical tests:

```
    (true || false) true
    (!false) true
```

Combined tests:

```
    !(15 > 20)
    ((5 == 6) && (5 == 5))
    ((5==6)||(5==5))
```

Timed Events:

```
    millis();
```

// Total sketches:

1. Autostart (p2_1.pde)
2. Timed Events (p2_2.pde)
3. Color Change (p2_3.pde)
4. Mouse location (p2_4.pde)

// Submit

1. 4 pde files to Google Drive. (10 pts each, 40 pts total)
2. One letter-size ink-jet print of 4 tiff files arranged on one sheet of paper. (see code below to generate the Tiffs) (10 pts)
3. Pencil sketches on blank sketch paper and graph paper including annotations and pseudo codes. (10 pts)

Use the following code to export to TIFF file format. Copy/paste the code in blue at the very end of your code outside of draw(). Once your sketch is compiled, press ENTER to generate this Tiff file. Look into the sketch folder for the file.

```
void keyPressed() {
  if (keyCode == ENTER) {
    saveFrame("####.tif");
  }
}
```

Create a folder with your name on it and neatly organize the submissions into subfolders. Please create an assignment folder, if you are the first one to submit the assignment. Thank you!