Goal: Learn to implement motion of object and animation.

Objectives: Use graphics primitives translate, rotate, pushMatrix, popMatrix to introduce animation into your project.

(Lab 1) Learned to (i) solve problem using Processing language (ii) use Processing Development Environment (PDE) (iii) use 2D primitives, color settings, image commands, mouse operations and the coordinate system of PDE. (iii) mousePressed

Problem context:

For the project we are travelling from African Savannah we created in Lab1 to Hawaiian Island of Maui. Here is scene from under the sea while you snorkel them. You want to recreate a similar scene full of different sea creatures all moving around at different speed.

Please attend recitation to see a working version of the Lab.
Problem Statement:

From the rather static safari we are moving on to really dynamic environment of Hawaiian islands. You required to keep background real to the environment (no blank background allowed). You need the coral reefs, multiple fish types and under water creatures (eg.shark, octopus, stingray), all moving around at their own pace. The placement and movement should be reasonable and natural. For example, you don’t want to see turtles just whizzing around while fishes are limping around. The initial scenario should start with the background, coral, and a few types of fish. Later on you can add other fish like shark by clicking on a selection board (panel of animals) to select a fish and place it in the location where the mouse is pressed. Panel of animals is displayed at the bottom using thumbnail images of the animals. See the panel below the scene shown above: images are from http://www.deepseaphotography.com

Implementation Details:

- For the initial size of the sketch use 500 pixels by 500 pixels.
- Your program should be modular with coherent functions and parameters to customize the functions.
- You need to provide a choice of many sea creatures. You may also want to “text” their names on the thumbnails.
- You should have code that uses control structures such as “for” and “while” loop, “switch” and “if” statements.
- You can use println to debug your program.
- You can use mouse operations such as mouse pressed or mouse released operations.
- You can either use “translate” and “rotate” functions or use pushMatrix and popMatrix and angular movements for simulating movements. Also use appropriate frame rate to adjust the whole scenario.
- Your code should use variables as appropriate and use comments.

Use the following structure for your program.

```cpp
// Header comments: Name box as shown below
/******************************************************************************
/* Project: My Maui Snorkel Scene                                           */
/* Author: Your full name                                                    */
/* Email: your buffalo email                                                 */
/* Date of completion:                                                      */
/* Course: CSE113 Fall 2014                                                 */
/******************************************************************************

// Declare variables

void setup() {
    // Set up the drawing.
    // see setup seascape
}

void draw() { /* remains empty */ }

void mouseClicked() {
}

Submission:

Submit it as soon as it ready to submit. Due date: 10/3/2014 by 6pm
```