Lab Week 8. Writing a Class (animated objects)

Last Week

- Understanding and using a Class
- Creating objects (instances of a Class)
- Manipulating object behaviour using its methods
- Using a constructor

Learning Objectives

- Using PImage
- Designing and implementing a Class
- Writing methods
- Writing constructor

[open any outstanding portfolio exercises for marking later last week was ex7, racing motorbikes]

Resources

- Lecture Notes – flying Bird
- Tutorial https://processing.org/tutorials/objects/
- Processing website - reference

In your Programming directory create a week 8 directory and save your code after each exercise.

Ex1. Save the code below as **walkers.pde**. On moodle (week 8) you will find a zip file of **gif images** for a walking person sequence. Download these and place the unzipped images in your **walkers** directory alongside the code file.

We will create a suitable class to allow multiple people to walk across the screen at differing speeds. The image sequence should be used as movement takes place. When a person reaches the right edge of the screen they should restart at the left edge (wrap around). Look back at this week's lecture notes as this is a similar problem to the flying bird Class.

```
PImage img1;
int x=50,y=50;

size(400,400);
img1 = loadImage("walk1.gif"); //loads from .pde source code directory
image(img1,x,y);
```

Ex2. Using a drawing package create 4 images for an animated object. The easiest technique, is to draw the first, save it, then modify it and save repeatedly. Most drawing packages will allow you to mirror an image file (https://www.sumopaint.com/home/#app, is an online package that works well with **google chrome**).

One image for when the Object is heading each of:

- up and right
- up and left
- down and right
- down and left

a. Create a class that allows multiple objects to move in **all** directions around the screen whilst using your 4 images. The class should contain a constructor, a render and a move method (perhaps more).
b. Create a program that allows 3 instance objects of your class to move around the screen, bouncing off each other and off the edges.

Your tutor will mark off any outstanding portfolio exercises (ex7. 3 racing motorbikes with scores on screen was week 6)

Extension exercise : when your objects bounce off each other, attempt to draw a crash sequence (e.g. explosion) which in its simplest terms could just be a growing set of concentric circles in different colours. Hint look back at our use of a **gameMode** variable in the last lab.