Computer Modelling 2

Practical #6

**Content:**

Animating the sine wave.

**Question 1:**

Write a script that moves a ball object up and down in a smooth bobbing motion. Use the ball object from sideshowbob.

Note that the motion is in the y direction only, and should begin from - and oscillate around - the centre of the canvas. The ball is fixed in the middle of the canvas in the x direction.

Try different values for the range (how far the ball moves up and down from the centre).

**Question 2:**

Write a second script (just the first script+ some extra lines of code) that adds horizontal motion to give the wave like effect.

Note that in this case the motion starts from the left hand side of the canvas.

**Hint:** we need an extra variable to move the ball along the x axis.

Why does the ball overlap with the edge of the canvas at the beginning of the animation? How can we rectify this?

**Code breakdown:**

* Create ball instance
* Initialise variables
* Position ball in x direction (in center for Q1, and on lhs of canvas for Q2)
* In animate function:
* Increment ball’s x position (Q2 only)
* Move ball in y direction using appropriate trig function
* Increment angle
  + Note that the angle variable should be incremented by a value that is less than zero to maintain the smooth effect. Try setting to a higher value, and observe what happens.
* Draw ball