Setup: clap when the 15 sec timer ends

00 : 15

Timer 1

```
setTimer (1, 15000)
for _ in infinity():
    onTimer (1, clap)
```

Graphics and Animation:

Event-Driven Programming
Timed Events

Fact: a timer running out can be thought of as an event.

def: a ***timed event*** is one which occurs when a timer runs out.

Q:
How do I teach the Python window to "set up" a timer?

A:
`setTimer`

Grammar of timer setting

setTimer (*a number* , *how long*)

Red text is REQUIRED by Python grammar!

Handwriting means "your choice"

e.g.

setTimer *(1, 15000)*

Set the timer for 15 seconds

Unique number to "name" this timer

#after 15 seconds, create
#an event

e.g.

setTimer (2, 5000)

Set the timer for 5 seconds

Unique number to "name" this timer

#after 5 seconds, create

#an event

Q:
How do I teach Python to listen and respond to a timer event?

A:
onTimer

Grammar of timer listener

onTimer (*a number* , *handler*)

The number of the timer to listen for

The handler to call in response to the "timer beep"

Handler for the timer event

```
def boop ():
    x = randint (-200, 200)
    y = randint (-200, 200)
    gprint ("hi", x, y)


setTimer (1, 1000)
for _ in infinity() :
    onTimer (1, boop)
```

Set up the timer. ONLY DONE ONCE!

Listen for the timer event

Fact: a timer that has been set up will continue to work until the repl terminates .

Q:
How do I teach the Python window to "turn off" a previously set up timer?

A:
`clearTimer`

Grammar of timer clearer

clearTimer **(** *a number* **)**

The number of the timer
you wish to turn off