Drawing graphics

First we are going to draw a simple shape on the screen. First we must import the Tkinter graphics packages.

```
from tkinter import *
from tkinter.ttk import *
```

Now we need to set up a window to hold our drawings.

```
window = Tk()
window.geometry('1400x1000')

# rest of the code here

window.mainloop()
```

We will draw on a `canvas`, which we must create and then `pack` onto our `window`.

```
canvas = Canvas(window, width=1400, height=1000, bg='white')
canvas.pack(anchor=CENTER, expand=True)
```

If you run your code at this point, you should get a big, white window.

Let's draw a square on it.

```
canvas.create_rectangle((650,450), (750,550), fill="blue")
```

Animation

We can make our square move around the screen using a loop. The way this works is that we redraw the screen each time through the loop.

Because our program will loop really quickly, the animation will be over quicker than we can see it. To deal with this we use `sleep` from the `time` package.

```
from time import sleep
```

We'll use a `while` loop by setting a variable `run` and looping while this is `True`. This is a little complicated because we are doing lots within the loop. We:

- clear the canvas using `canvas.delete("all");`
- redraw the square;
- use a variable `x` in the horizontal coordinate which we change the value of each loop, so that the square moves horizontally;
- stop the loop if `x` exceeds the width of the window;
- use `window.update()` to redraw the window and `sleep(0.5)` to wait 0.5 seconds before looping again.

```
x = 0
run = True
while run:
    canvas.delete("all")
    canvas.create_rectangle((x,450), (x+100,550), fill="blue")

    x += 10
    if x>1400:
        run = False

    window.update()
    sleep(0.5)
```