

10_cubes_spheres.py

```
"""
IMPORTANT: switch Mu mode to "Python 3"
"""
from richlib import *

WIDTH = 500
HEIGHT = 500

cube1 = Cube((25, 0, 0))
cube2 = Cube((-25, 0, 0))
sphere = Sphere((0, 0, 0))

cube1.color = (150, 0, 0)
cube2.color = BLUE

def draw():
    clear()
    cube1.draw()
    cube2.draw()
    sphere.draw()

run()

""" TODO:
Change the colors and positions of the cubes.
Make sure you understand (x,y,z) co-ordinates
(In maths this called a 'Cartesian coordinate system'
and everything we do in Richlib will use it)
"""
```

11_moving_cubes.py

```
"""
to make things move we need to add
the update() function
"""
from richlib import *

cube = Cube((0, 10, 0), (10, 20, 10), 'blue')

def draw():
    clear()
    cube.draw()

def update():
    cube.x = cube.x + 1
    if cube.x > 100:
        cube.x = -100

run()

""" TODO
make box move faster
make box move in different direction
make two boxes with different colours
"""
```

12_actors.py

```
"""
    Actors are very similar to cubes!
    The following 3d objects are built-in: barracks, bridge, castle, church, house,
    market, trooper, turret, watermill, well
    If you want any other objects you must provide a .obj file
"""
from richlib import *

alien = Actor('trooper')
alien.size = (20,20,20)

def draw():
    clear()
    alien.draw()

def update():
    alien.x += 1
    if alien.x > 100:
        alien.x = -100

run()

"""TODO
    try some other 3d object build-ins
    try downloading some .obj files from the web
    try creating a .obj file using https://www.leocad.org/ or https://www.blender.org/
"""
```

13_keyboard_input.py

```
from richlib import *

alien = Actor('trooper')
alien.size = (20,20,20)
alien.pos = (0, 10, 10)

def draw():
    clear()
    alien.draw()

def update():
    if keyboard.right:
        alien.x = alien.x + 1
    elif keyboard.left:
        alien.x = alien.x - 1

run()

"""TODO
    make the alien move up and down as well as left and right
    use the += operator to change the alien.x
    use the 'or' operator to allow WASD keys to move the alien
    in addition to the cursor keys
    make alien wrap around when he moves off edge of screen
"""
```