Code 01 - Understanding the Coordinate System

Example 01

```
from manim import *

class Myscene(Scene):

    def construct(self):

        circle = Circle()
        circle.set_opacity(1)

        self.add(circle)
        self.wait(5)

        self.play(circle.animate.set_fill(BLUE).set_stroke(YELLOW))
        self.wait(5)
        self.play(circle.animate.set_stroke_width(25))
        self.wait(5)
        self.play(circle.animate.scale(9), run_time=5)
        self.wait(5)
        self.play(FadeOut(circle))
        self.wait(5)
```

Example 02

```
from manim import *

class Myscene2(Scene):

    def construct(self):

        circle = Circle().shift(2*RIGHT)
        circle.set_opacity(0.25)
        dot = Dot().shift(circle.get_center())


        self.play(Create(circle))
        self.wait(2)
        self.play(Create(dot))
        self.play(circle.animate.shift(UP*2 + RIGHT*2))
        self.wait(2)
```

Exmaple 03

```
from manim import *

class Myscene3(Scene):

    def construct(self):

        circle = Circle().shift(2*RIGHT)
        circle.set_opacity(0.25)
        dot = always_redraw(lambda : Dot().shift(circle.get_center()))


        self.play(Create(circle))
        self.wait(2)
        self.play(Create(dot))
        self.play(circle.animate.shift(UP*2 + RIGHT*2))
        self.wait(2)
```

Example 04

```
from manim import *

class Myscene4(Scene):

    def construct(self):

        plane = NumberPlane()
        plane.add_coordinates()


        circle = Circle().shift(2*RIGHT)
        circle.set_opacity(0.25)
        dot = always_redraw(lambda : Dot().shift(circle.get_center()))


        self.add(plane)


        self.play(Create(circle))
        self.wait(2)
        self.play(Create(dot))
        self.play(circle.animate.shift(UP*2 + RIGHT*2))
        self.wait(2)
```

Example 05

```
from manim import *

class Myscene5(Scene):

    def construct(self):

        plane = NumberPlane(x_range = [-2,12,1],
        y_range= [-1, 7, 1])
        plane.add_coordinates()


        circle = Circle()
        circle.set_opacity(0.25)
        dot = always_redraw(lambda : Dot().shift(circle.get_center()))


        self.add(plane)


        self.play(Create(circle))
        self.wait(2)
        self.play(Create(dot))
        self.play(circle.animate.shift(UP*2 + RIGHT*2))
        self.wait(2)
```

Example 06

```
from manim import *

class Myscene6(Scene):

    def construct(self):

        plane = NumberPlane(x_range = [-2,12,1],
        y_range= [-1, 7, 1])
        plane.add_coordinates()

        circle = Circle()
        circle.set_opacity(0.25)
        dot = always_redraw(lambda : Dot().shift(circle.get_center()))


        self.add(plane)


        self.play(Create(circle))
        self.wait(2)
        self.play(Create(dot))
        self.play(circle.animate.shift(plane.c2p(2,2)))
        self.wait(2)
```