The Mandelbrot Set

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Here is a function we'll use to create an interactive image of the Mendelbrot Set where we can zoom in.

```
activeZoomMS[p_] := (Manipulate[
   MandelbrotSetPlot[Apply[Complex, {p - α, p + α}, {1}],
    ColorFunction → "AvocadoColors", Frame → True, ImageSize → 600],
   {α, 2, 10^-4}])
```

Here are some interesting points to zoom into. These are from https://www.wolfram.com/mathematica/new-in-10/enhanced-visualization/plot-the-mandelbrot-set.html

```
(* Seahorse Valley *)
p1 = {-0.733, 0.185};
```

```
(* smaller bulbs *)
p2 = {0.2355, 0.5617};
```

Here are some more interesting points to zoom into. These are from http://colinlmiller.com/fractals/gallery.htm

```
(* arm *)
p3 = {-1.985540371654130485531439267191269851811165434636382820704394766801377,
   0.000000000000000000000000000000156512021721146610198349609250951247917 8};
```

```
(* curvy arm *)
p4 = {-1.778103342740640371105223260388526394992079614146283075845751732329691544 40,
   0.007673942421213393926726719478934717749589850185350196849466712640123023 78};
```

Here is a spiral that I found.

```
p5 = {0.236 + 27 / 152 * 0.001, 0.563 + 57 / 152 * 0.001};
```

Here is another spiral point, but Mathematica cannot render the zoomed-in image as nicely...

```
p6 = {0.2355 + 52 / 151 * 0.0005, 0.5630 + 10 / 151 * 0.0005};
```

Use the function to zoom into the *interesting* points.

```
activeZoomMS[p6]
```