In[1]:=
```
biomorph = Compile[{x, y, lim, cx, cy},
    Module[{z, ct = 0, ct2 = 1, vc = 0},
     w = ConstantArray[0, 400];
     u = ConstantArray[0, 400];
     z = x + I y;
     w[[1]] = Re[z];
     u[[1]] = Im[z];

     While[Abs[z] < 10.0 && ct < 1,
      z = f[z, cx, cy];
      w[[2]] = Re[z];
      u[[2]] = Im[z];
      ++ct];
     While[Abs[z] < 10.0 && 1 ≤ ct2 && ct2 ≤ lim,
      ct = ct2;
      xn = (w[[ct2 + 1]] + Sum[α^(ct2+1-i) w[[i]], {i, 1, ct2}]) / (1 + Sum[α^(ct2+1-i), {i, 1, ct2}]);
      yn = (u[[ct2 + 1]] + Sum[α^(ct2+1-i) u[[i]], {i, 1, ct2}]) / (1 + Sum[α^(ct2+1-i), {i, 1, ct2}]);

      xn2 = cx + xn^5/(xn^2 + yn^2)^5 - 10 xn^3 yn^2/(xn^2 + yn^2)^5 + 5 xn yn^4/(xn^2 + yn^2)^5;
      yn2 = cy - 5 xn^4 yn/(xn^2 + yn^2)^5 + 10 xn^2 yn^3/(xn^2 + yn^2)^5 - yn^5/(xn^2 + yn^2)^5;
      z = xn2 + i yn2;
      w[[ct2 + 2]] = xn2;
      u[[ct2 + 2]] = yn2;
      ++ct2];
     If[Abs[Re[z]] < 10 && Abs[Im[z]] ≥ 10, vc = 1,
      If[Abs[Re[z]] ≥ 10 && Abs[Im[z]] < 10, vc = 2,
       If[Abs[Re[z]] ≥ 10 && Abs[Im[z]] ≥ 10, vc = 3,
        If[Abs[z] < 10, vc = 0, vc = 4]]]];
     vc]];
```

In[2]:=
```
f[z_, cx_, cy_] := 1 / z^5 + (cx + i * cy);
β = 0.3241 - 0.08743 i;
α = 0.40;
DensityPlot[biomorph[x, y, 4000, Re[β], Im[β]], {x, -2.5, 2.5}, {y, -2.5, 2.5},
 AspectRatio → 1,
 ColorFunction → (If[#1 == 0, Red,
     If[#1 == 1, Blue, If[#1 == 2, Green, If[#1 == 3, White, If[#1 == 4, Black, Red]]]]] &),
 ColorFunctionScaling → False, Frame → False, PlotPoints → 400, PlotRangePadding → None]
```

Out[5]=