12/12/22 20098690 Liam Flynn – Applied Computing Games Development

clf

f=gcf()

f.color\_map=hotcolormap(5)

function **f**=z(**x**, **y**)

**f** = **x**.^2+**y**.^2

endfunction

x = linspace (-5, 5, 100)

y = linspace (-5, 5, 100)

contour (x, y, z, 9)

Ax = gca()

Ax.x\_location = 'origin'

Ax.y\_location = 'origin'

[x,y] = meshgrid(-5:0.5:5)

z = x.^2+y.^2

surf(x,y,z)

gcf().color\_map = hotcolormap(50)

colorbar(min(z), max(z))

Chart, surface chart

Description automatically generatedChart

Description automatically generated

This is code to graph the surface and contours of a quadratric equation.

These images are the surface and contour of a function f=z(x,y) where z = represented graphically.

The surface graph is a 3D representation of the 3D data when f is a 3D function. It shows the relationship between x y and z as a 3D surface and helps to visualize it.

The contour graph represents the 3D surface on a 2D format with contours. Surface plots and contour plots work together to visualize 3D functions.