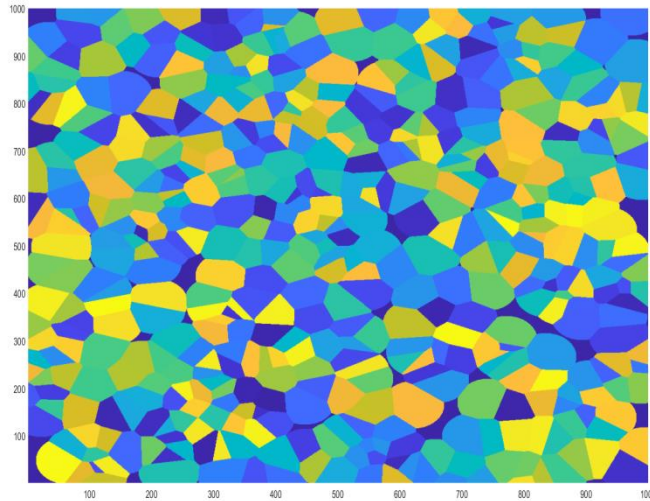MM3110 Assignment 6 part 1
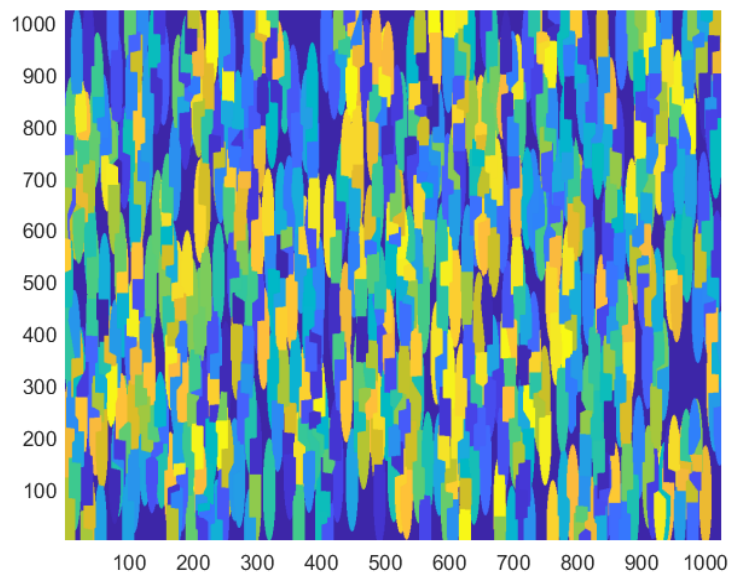
Bhuvanesh P – MM19B027

Question1 :

Equiaxed grains

The grid size is 1000 X 1000 with 500 grains. Here Vx = Vy

Elongated grains

The grid size is 1000 X 1000 with 500 grains. Here Vx = 10 Vy

Frequency = 1

The code and the gifs of the microstructure evolution are attached separately

Question 2 :

For 100 grains

The fraction of interior points : 0.9650

The fraction of Grain boundary points : 0.0350

The fraction of Triple points : 3.9768e-04

For 500 grains

The fraction of interior points : 0.9242
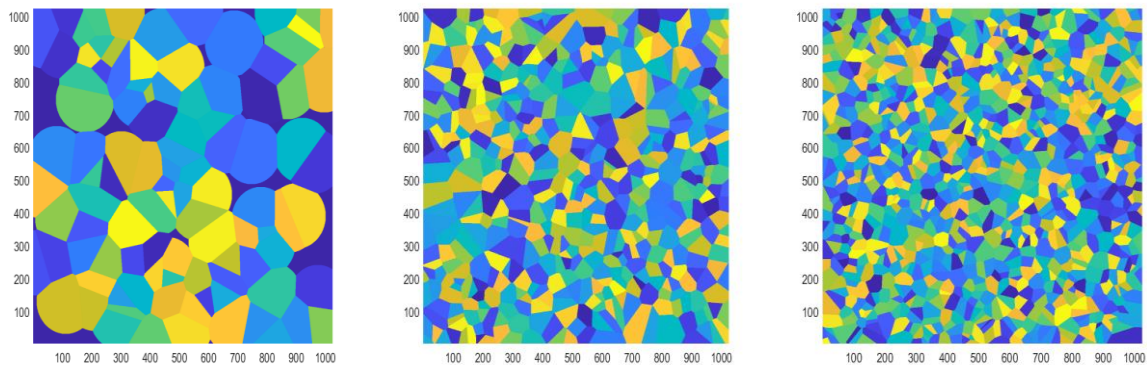
The fraction of Grain boundary points : 0.0758

The fraction of Triple points : 0.0017

For 1000 grains

The fraction of interior points : 0.8933

The fraction of Grain boundary points : 0.1067

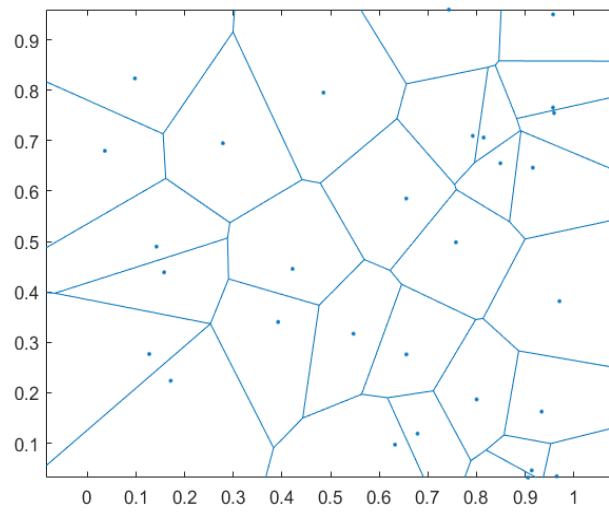The fraction of Triple points : 0.0036

Microstructure with 100, 500, 1000 grains respectively

The code is attached separately

Question 3 :

Voronoi tessellation with 30 grains

Microstructure created using Voronoi

The code is attached separately

Gif files are compressed to reduce the size