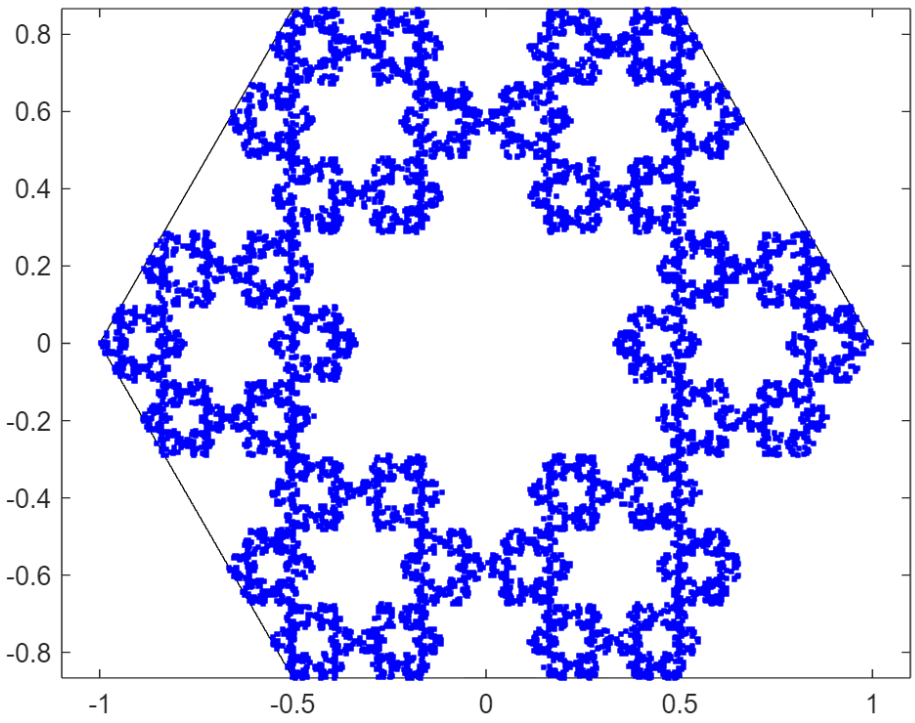
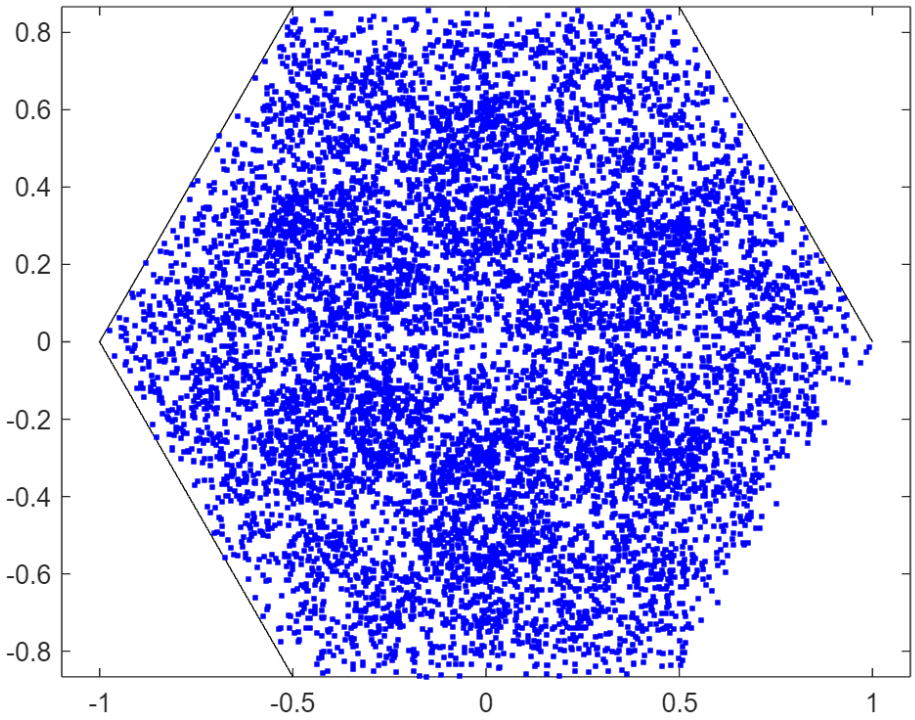
```
%%Hexagon
clear;

T = [1/3 0; 0 1/3];

t = linspace(0, 2*pi, 7);
t(7) = [];
v = [cos(t); sin(t)];

x(:,1) = [rand-0.5; rand-0.5];

plot(v(1,:), v(2,:), 'k', x(1,1), x(2,1),'b.');
axis equal;
hold on;

Num = 10000;

for j = 1:Num
    k = randi(6);
    x(:,j+1) = T*(x(:,j)-v(:,k)) + v(:,k);
end
plot(x(1,:), x(2,:),'b.');
hold off;
```




```
%%Hexagon
clear;
```

```
T = [1/2 0; 0 1/2];

t = linspace(0, 2*pi, 7);
t(7) = [];
v = [cos(t); sin(t)];

x(:,1) = [rand-0.5; rand-0.5];

plot(v(1,:), v(2,:), 'k', x(1,1), x(2,1),'b.');
axis equal;
hold on;

Num = 10000;

for j = 1:Num
    k = randi(6);
    x(:,j+1) = T*(x(:,j)-v(:,k)) + v(:,k);
end
plot(x(1,:), x(2,:),'b.');
hold off;
```




```
%%Hexagon
clear;

T = [1/4 0; 0 1/4];

t = linspace(0, 2*pi, 7);
```

```
t(7) = [];
v = [cos(t); sin(t)];

x(:,1) = [rand-0.5; rand-0.5];

plot(v(1,:), v(2,:), 'k', x(1,1), x(2,1),'b.');
axis equal;
hold on;

Num = 10000;

for j = 1:Num
    k = randi(6);
    x(:,j+1) = T*(x(:,j)-v(:,k)) + v(:,k);
end
plot(x(1,:), x(2,:),'b.');
hold off;
```