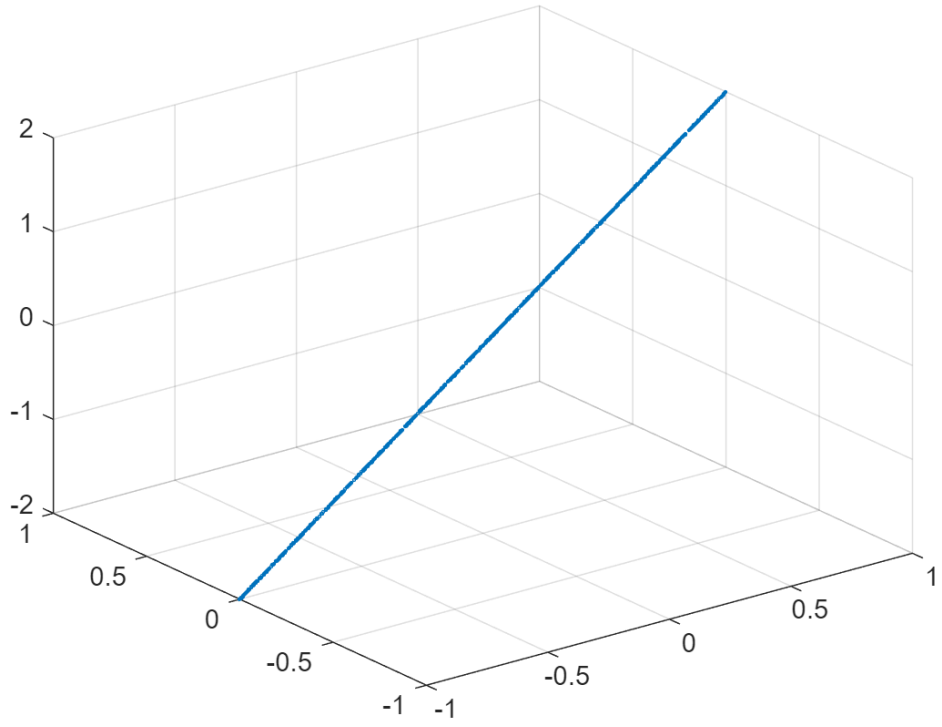
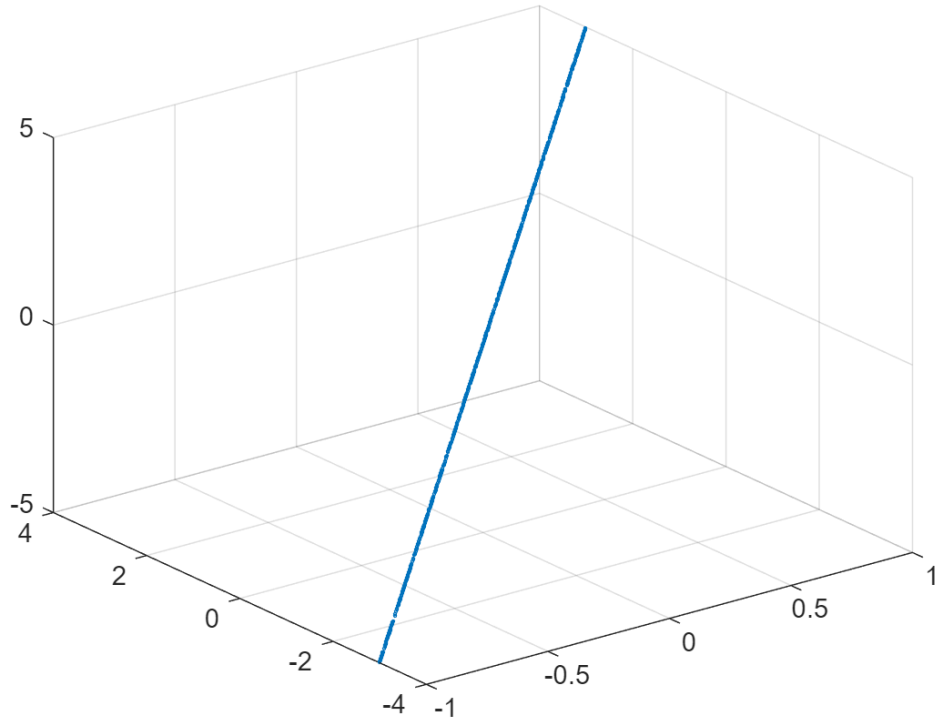
Q1

```
V = [1;0;2];
pts = [];
for i = 1:1000
    sf = -1+2*rand(1);
    pts=[pts,sf*V];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1);
```



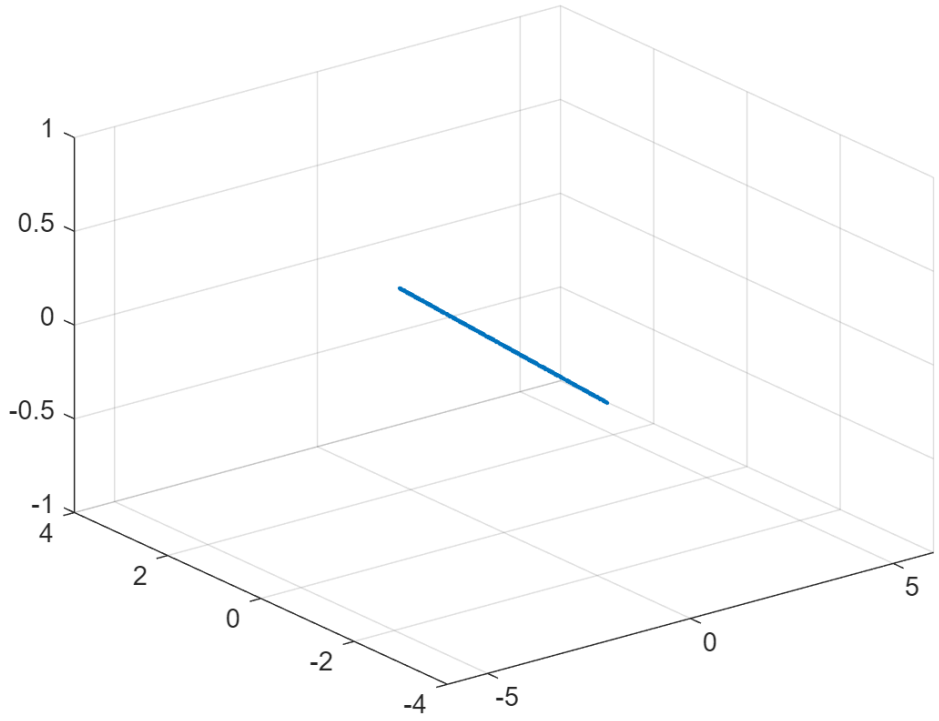
Q2

```
V = [1;3;5];
pts = [];
for i = 1:1000
    sf = -1+2*rand(1);
    pts=[pts,sf*V];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1);
```



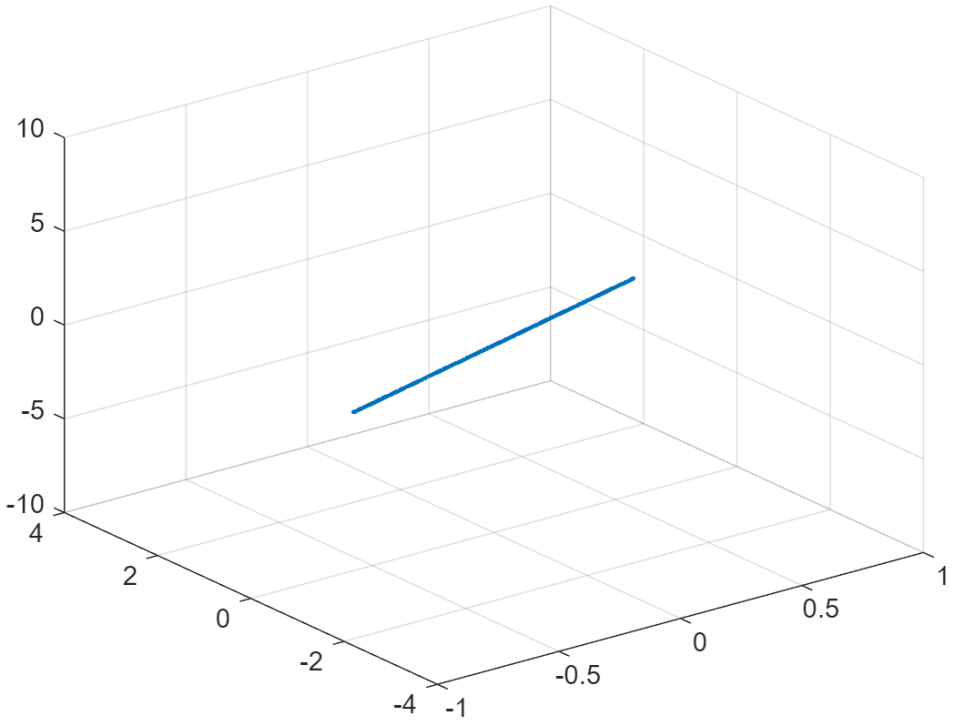
Q3

```
V = [-6;-3;1];
pts = [];
for i = 1:1000
    sf = -1+2*rand(1);
    pts=[pts,sf*V];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1);
```



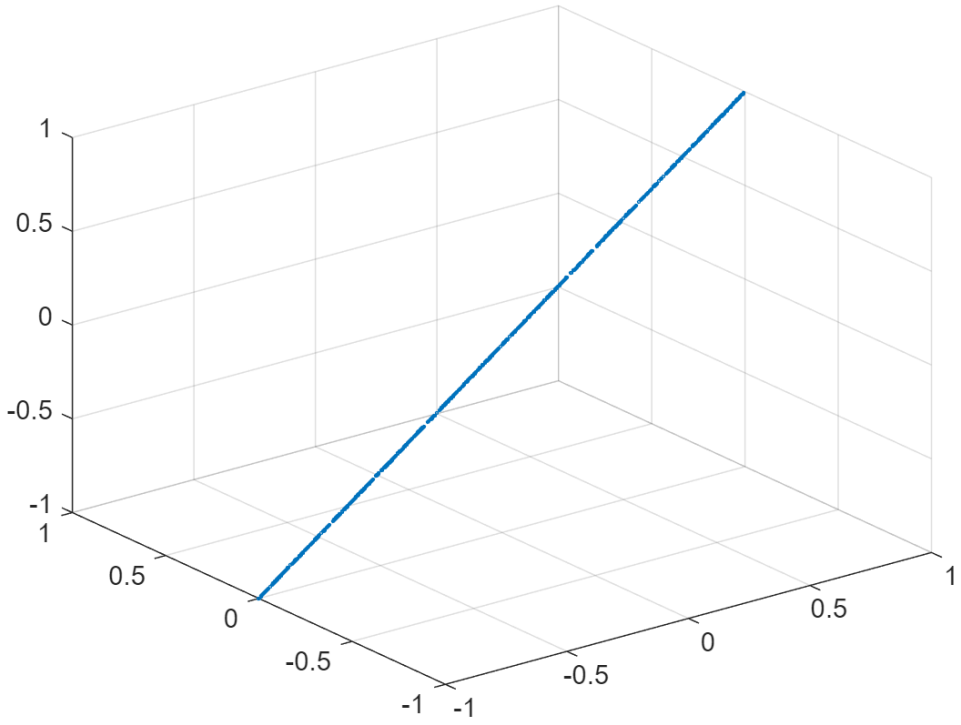
Q4

```
V = [0;-3;7];
pts = [];
for i = 1:1000
    sf = -1+2*rand(1);
    pts=[pts,sf*V];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1);
```



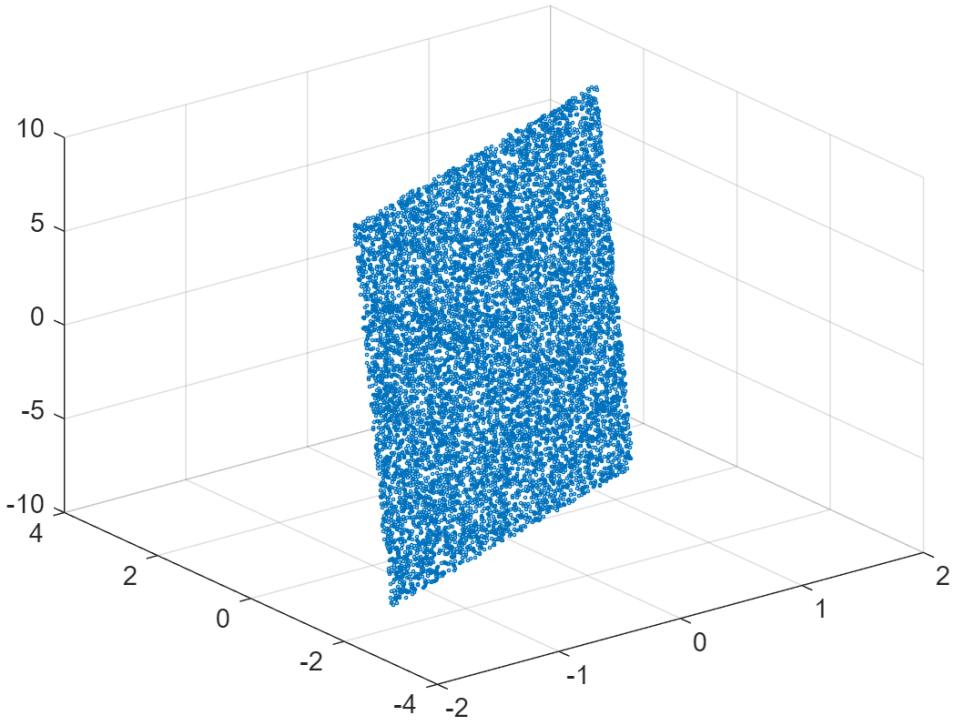
Q5

```
V = [1;0;1];
pts = [];
for i = 1:1000
    sf = -1+2*rand(1);
    pts=[pts,sf*V];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1);
```



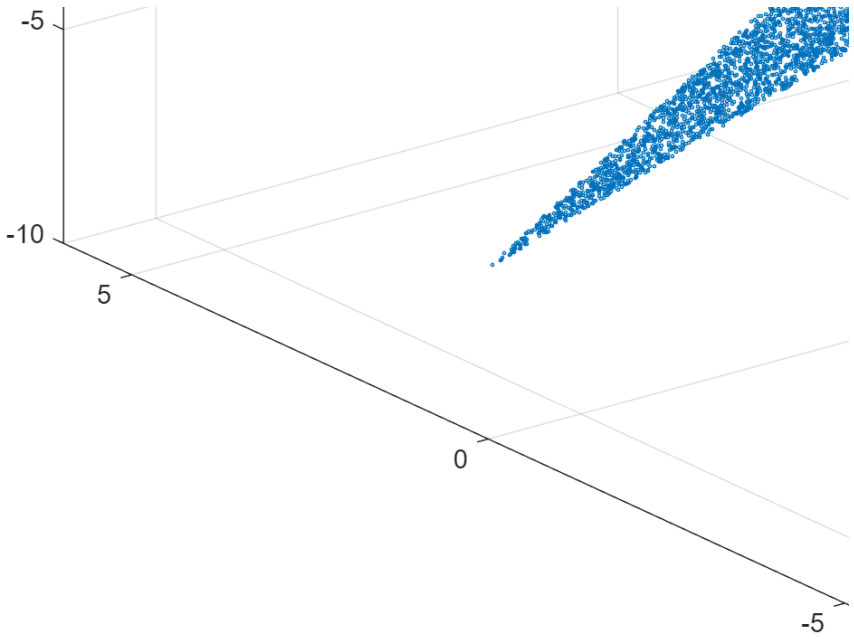
Q6

```
V1 = [1;0;2];
V2 = [1;3;5];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1.2)
```



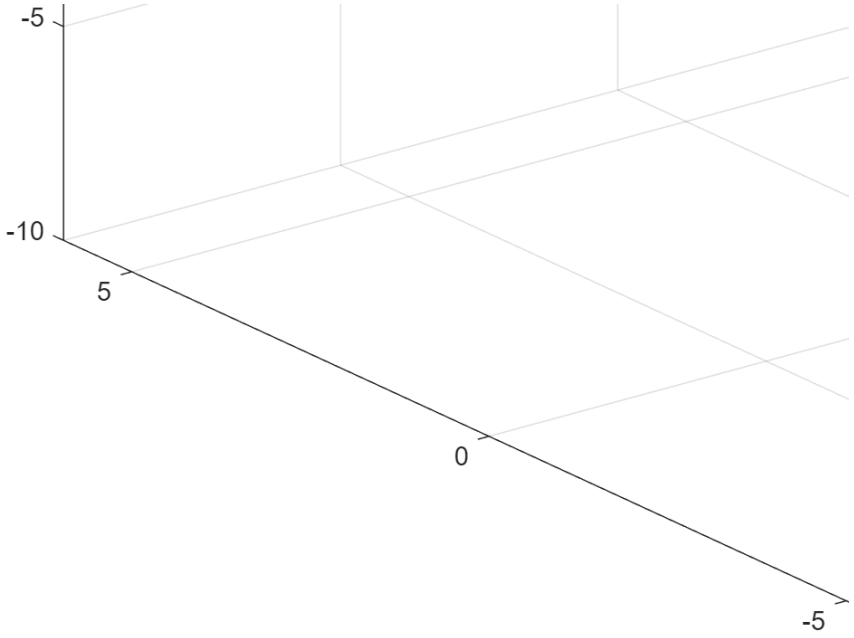
Q7

```
V1 = [-6;-3;1];
V2 = [0;-3;7];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1.2)
```



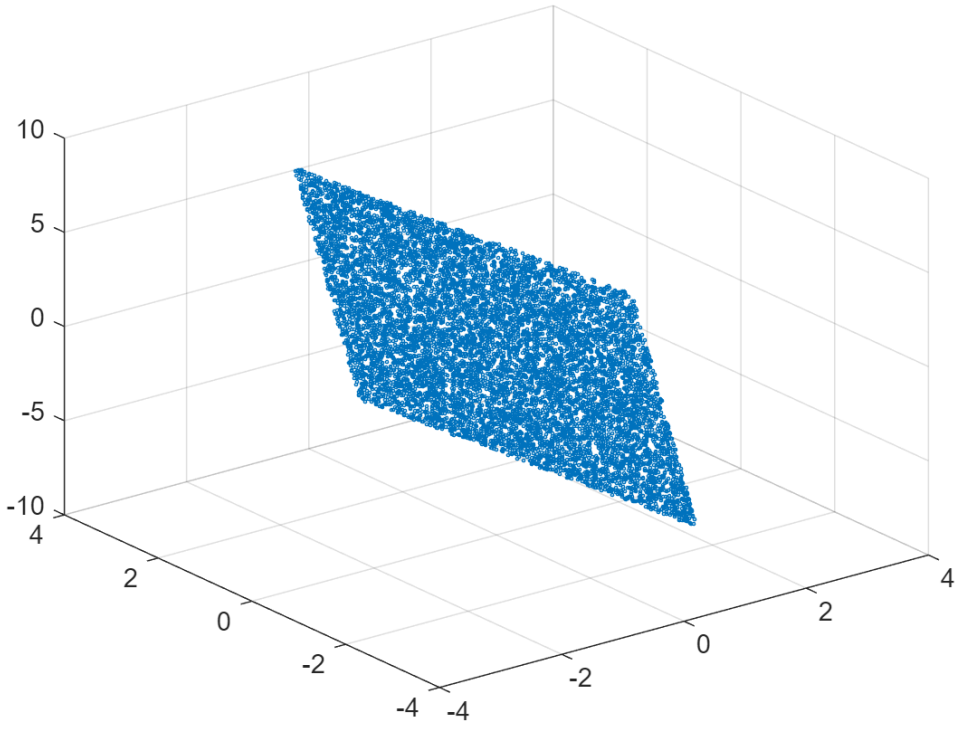
Q8

```
V1 = [2;5;1];
V2 = [1;1;-6];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1.2)
```



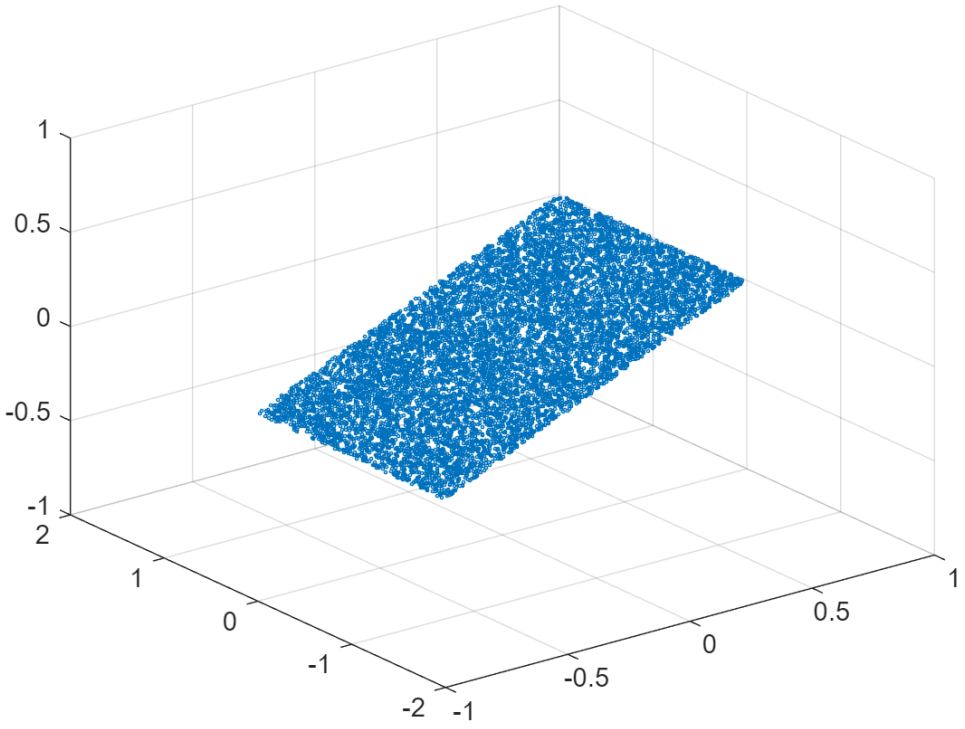
Q9

```
V1 = [1;2;3];
V2 = [-2;1;4];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1.2)
```



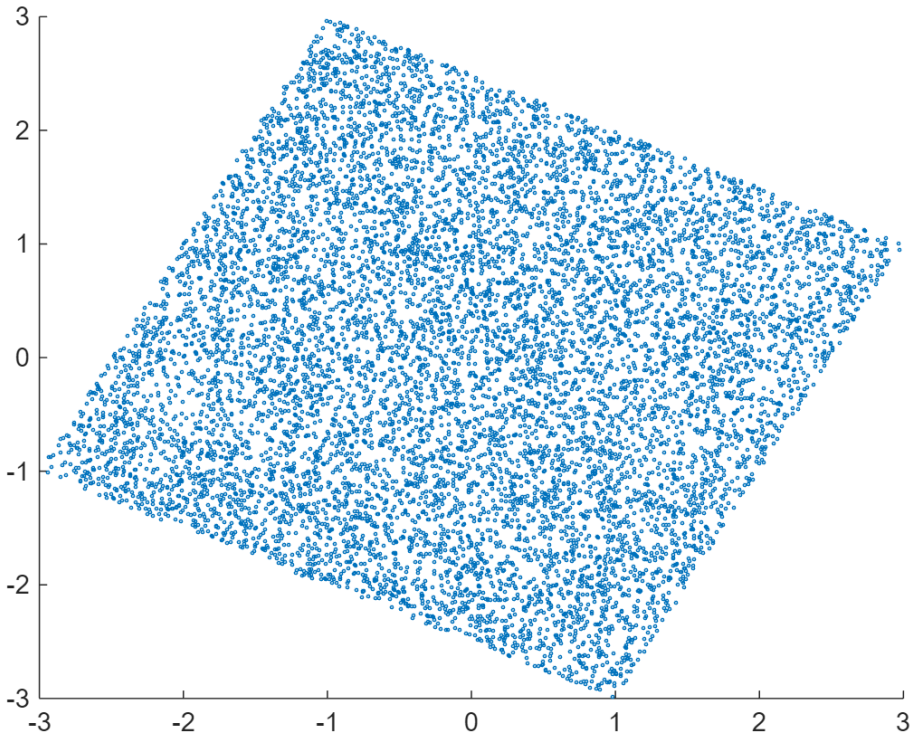
Q10

```
V1 = [1;1;0];
V2 = [0;1;0];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter3(pts(1,:),pts(2,:),pts(3,:),1.2)
```



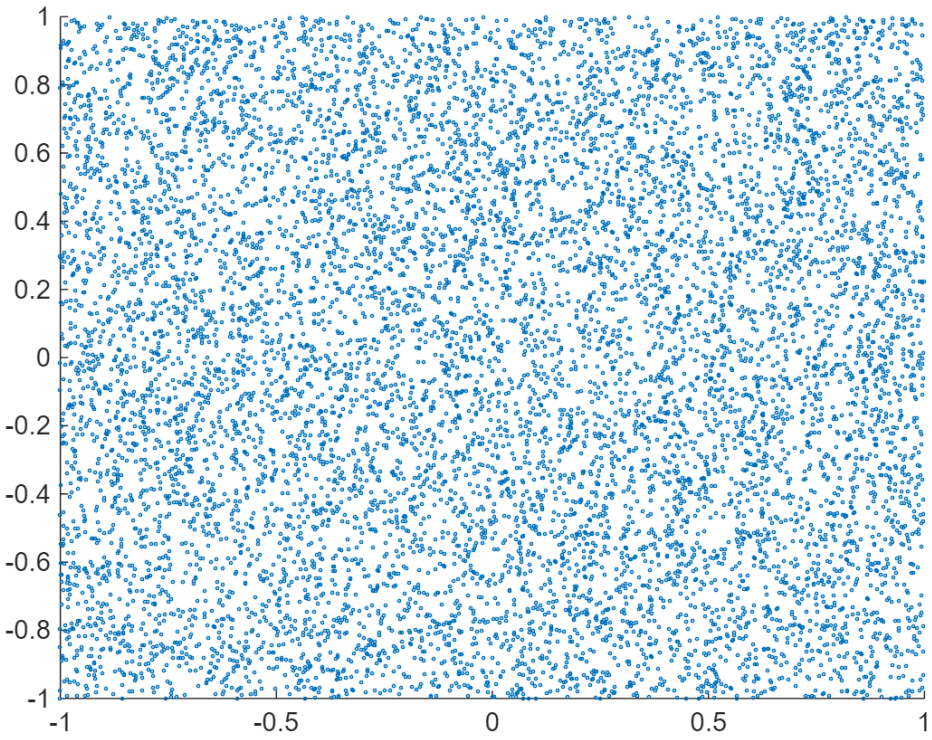
Q11

```
V1 = [1;2];
V2 = [-2;1];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter(pts(1,:),pts(2,:),1.2)
```



Q12

```
V1 = [1;0];
V2 = [0;1];
pts = [];
for i = 1:10000
    sf1 = -1+2*rand(1);
    sf2 = -1+2*rand(1);
    pts=[pts,sf1*V1+sf2*V2];
end
scatter(pts(1,:),pts(2,:),1.2)
```


1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-1
-0.5
0
0.5
1