```
clc
close all
clear

tr= stlread('part1.stl')
```

```
tr =
  triangulation のプロパティ:

             Points: [4145×3 double]
    ConnectivityList: [8286×3 double]
```

```


figure
trimesh(tr)
axis('equal')
xlabel('x')
ylabel('y')
zlabel('z')
title('part1')

p=tr.Points
```

```
p = 4145×3
   -3.5000   58.6240  -80.2178
  -17.5000   59.8250  -78.2696
   -2.5000   58.0842  -79.2224
   -6.7559   58.0256  -77.8561
   -2.5000   57.4600  -77.9983
   -6.7559   57.2936  -76.7206
   -2.5000   56.6929  -76.8576
   -6.7559   56.4094  -75.7001
   -2.5000   56.2496  -76.3377
   -2.5000   55.8481  -75.9463
      ⋮
```

```


tr.Points(2,:)
```

```
ans = 1×3
  -17.5000   59.8250  -78.2696
```

```
p(2,:)
```

```
ans = 1×3
  -17.5000   59.8250  -78.2696
```

```
tr.Points(1,2)
```

```
ans = 58.6240
```

```
i=1
```

```
i = 1
```

```
j=2
```

```
j = 2
```

```
tr.Points(i,j)
```

```
ans = 58.6240
```

```
c=tr.ConnectivityList
```

```
c = 8286×3
     1     2     3
     3     2     4
     3     4     5
     5     4     6
     5     6     7
     7     6     8
     7     8     9
     9     8    10
    10     8    11
    10    11    12
     ⋮
```

```
c(2,:)
```

```
ans = 1×3
     3     2     4
```

```
c1=c(2,1)
```

```
c1 = 3
```

```
p1=p(c1,:)
```

```
p1 = 1×3
   -2.5000   58.0842  -79.2224
```

```
size(p,1)
```

```
ans = 4145
```

```
size(c,1)
```

```
ans = 8286
```

```
np=zeros(size(p))
```

```
np = 4145×3
     0     0     0
     0     0     0
     0     0     0
     0     0     0
     0     0     0
     0     0     0
     0     0     0
```

```
     0     0     0
     0     0     0
     0     0     0
     ⋮
```

```
i=1
```

```
i = 1
```

```
np(i,1)=p(i,1)+100
```

```
np = 4145×3
   96.5000         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
     ⋮
```

```
np(i,2)=p(i,2)+200
```

```
np = 4145×3
   96.5000  258.6240         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
     ⋮
```

```
np(i,3)=p(i,3)+300
```

```
np = 4145×3
   96.5000  258.6240  219.7822
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
     ⋮
```

```
for i=1:size(p,1)
np(i,1)=p(i,1)+100;
np(i,2)=p(i,2)+200;
```

```
np(i,3)=p(i,3)+300;
end

tr2=triangulation(tr.ConnectivityList,np)
```

```
tr2 =
  triangulation のプロパティ:

             Points: [4145×3 double]
    ConnectivityList: [8286×3 double]
```

```
hold on
trimesh(tr2)
```