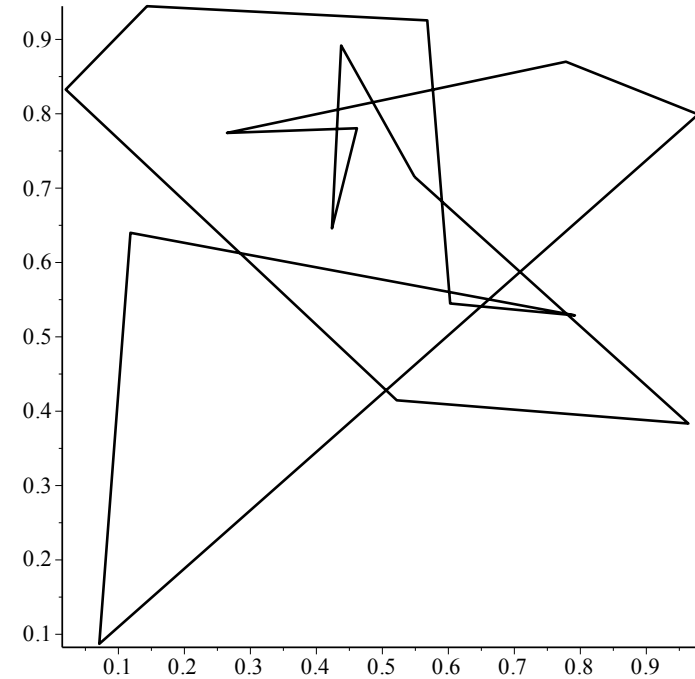```
> #?readdata;
> route:=[]:
  N:=31;
  for i from 0 to N do
    file1:=sprintf("/Users/bob/MultiScaleModeling/tsp/tsp-
final/plot/tmp%d.txt",i);
    a:=readdata(file1,2);
    route:=[op(route),a];
  end:
```
$$N := 31 \tag{1}$$

```
> file2:="/Users/bob/MultiScaleModeling/tsp/tsp-
final/plot/tmp1.txt";
```
$$\textit{file2} := \text{"/Users/bob/MultiScaleModeling/tsp/tsp-final/plot/tmp1.txt"} \tag{2}$$

```
> a:=readdata(file1,2);
  b:=readdata(file2,2);
```
$a := [[0.54881, 0.71519], [0.43759, 0.89177], [0.42365, 0.64589], [0.46148, 0.78053],$
$\quad [0.26456, 0.77423], [0.77816, 0.87001], [0.97862, 0.79916], [0.07104, 0.08713],$
$\quad [0.11827, 0.63992], [0.79173, 0.52889], [0.60276, 0.54488], [0.56804, 0.92560],$
$\quad [0.14335, 0.94467], [0.02022, 0.83262], [0.52185, 0.41466], [0.96366, 0.38344],$
$\quad [0.54881, 0.71519]]$

$b := [[0.54881, 0.71519], [0.60276, 0.54488], [0.42365, 0.64589], [0.43759, 0.89177], \tag{3}$
$\quad [0.96366, 0.38344], [0.79173, 0.52889], [0.56804, 0.92560], [0.07104, 0.08713],$
$\quad [0.14335, 0.94467], [0.77816, 0.87001], [0.97862, 0.79916], [0.46148, 0.78053],$
$\quad [0.11827, 0.63992], [0.02022, 0.83262], [0.52185, 0.41466], [0.26456, 0.77423],$
$\quad [0.54881, 0.71519]]$

```
> #restart;
  with(plots):
> #N_city:=16; Position:=seq([evalf(rand()/10^12),evalf
  (rand()/10^12)],i=1..N_city):

> a[3];
```
$$[0.42365, 0.64589] \tag{4}$$

```
> Real_Path:=[seq(a[i],i=1..17)];
  PLOT(CURVES(Real_Path));
```
$\textit{Real\_Path} := [[0.54881, 0.71519], [0.43759, 0.89177], [0.42365, 0.64589], [0.46148,$
$\quad 0.78053], [0.26456, 0.77423], [0.77816, 0.87001], [0.97862, 0.79916], [0.07104,$
$\quad 0.08713], [0.11827, 0.63992], [0.79173, 0.52889], [0.60276, 0.54488], [0.56804,$
$\quad 0.92560], [0.14335, 0.94467], [0.02022, 0.83262], [0.52185, 0.41466], [0.96366,$
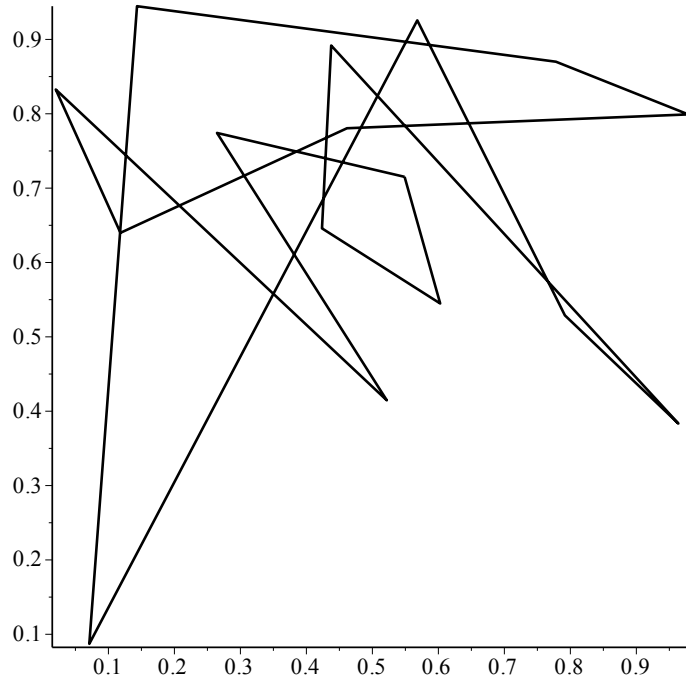$\quad 0.38344], [0.54881, 0.71519]]$



```
> Real_Path:=[seq(b[i],i=1..17)];
  PLOT(CURVES(Real_Path));
```
$\textit{Real\_Path} := [[0.54881, 0.71519], [0.60276, 0.54488], [0.42365, 0.64589], [0.43759,$
$\quad 0.89177], [0.96366, 0.38344], [0.79173, 0.52889], [0.56804, 0.92560], [0.07104,$
$\quad 0.08713], [0.14335, 0.94467], [0.77816, 0.87001], [0.97862, 0.79916], [0.46148,$
$\quad 0.78053], [0.11827, 0.63992], [0.02022, 0.83262], [0.52185, 0.41466], [0.26456,$
$\quad 0.77423], [0.54881, 0.71519]]$

```
> N:=941;
```

$$N := 941 \tag{5}$$

```
> route:=[]:
  for i from 0 to N do
    file1:=sprintf("/Users/bob/MultiScaleModeling/tsp/tsp-
  final/plot/tmp%d.txt",i);
    a:=readdata(file1,2);
    route:=[op(route),a];
  end:
> route[1];
```

$$[\,[\,0.54881, 0.71519\,], [\,0.60276, 0.54488\,], [\,0.42365, 0.64589\,], [\,0.43759, 0.89177\,], \tag{6}$$
$$[\,0.96366, 0.38344\,], [\,0.79173, 0.52889\,], [\,0.56804, 0.92560\,], [\,0.07104, 0.08713\,],$$
$$[\,0.02022, 0.83262\,], [\,0.77816, 0.87001\,], [\,0.97862, 0.79916\,], [\,0.46148, 0.78053\,],$$
$$[\,0.11827, 0.63992\,], [\,0.14335, 0.94467\,], [\,0.52185, 0.41466\,], [\,0.26456, 0.77423\,],$$
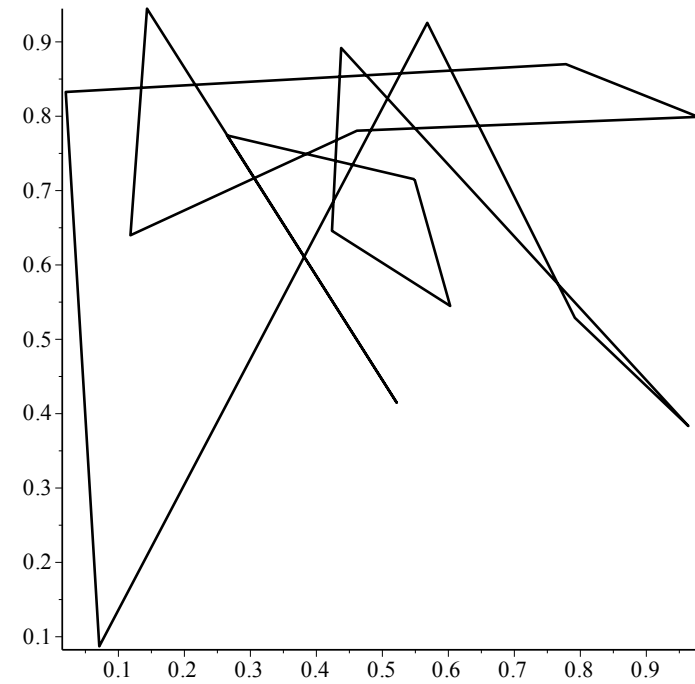$$[\,0.54881, 0.71519\,]\,]$$

```
> p1:=[];
  for j from 1 to N do
    Real_Path:=[seq(route[j][i],i=1..17)];
    p1:=[op(p1),PLOT(CURVES(Real_Path))];
  end:
```

$$p1 := [\ ] \tag{7}$$

```
> p1[1];
```