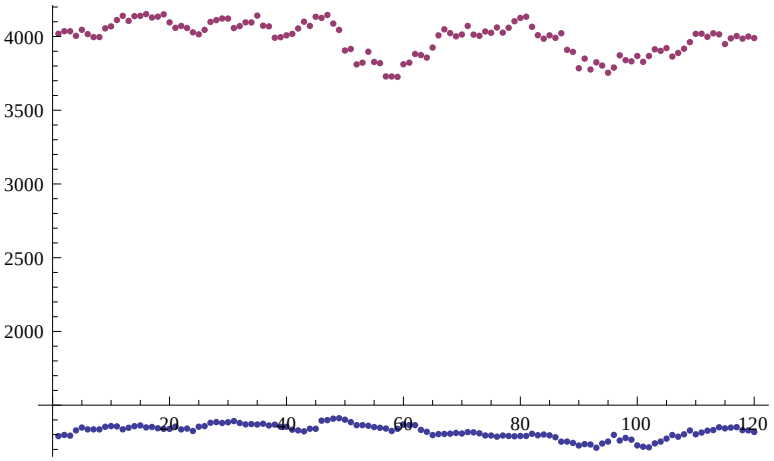
```
Exit[];

hedge = Flatten[Import["c:\\book1.txt", "Table"], 1][[1 ;; 120]];

Length[hedge]
```

120

```
g = FinancialData["DAX", "1.1.2004"];

d2 = Transpose[g][[2]][[1 ;; Length[hedge]]];

dax = Transpose[g][[2]][[1 ;; Length[hedge]]];

ListPlot[{hedge, dax}]
```



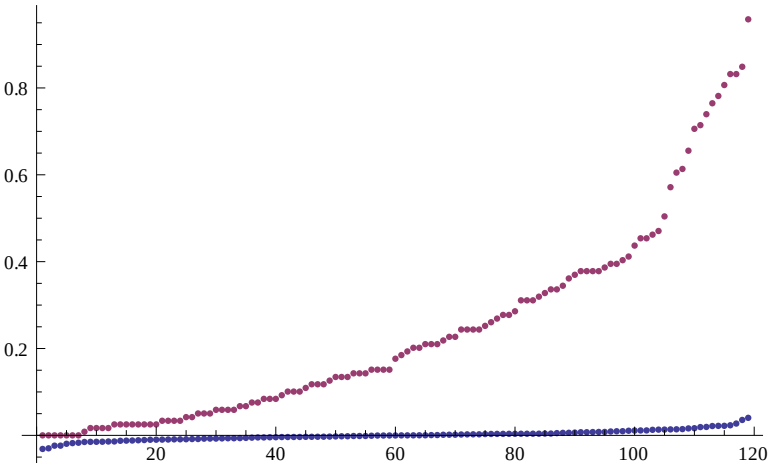

```
Export["c:\\outt.csv", Transpose[{hedge, dax, d2}]]
```

c:\outt.csv

```
hedge = Log[hedge]; dax = Log[dax];

hedge = Differences[hedge];

dax = Differences[dax];

w = Transpose[{hedge, co}];

w = Sort[w, #1[[1]] < #2[[1]] &];

hedge = Transpose[w][[1]];
dax = Transpose[w][[2]];
d2 = Transpose[w][[3]];
```

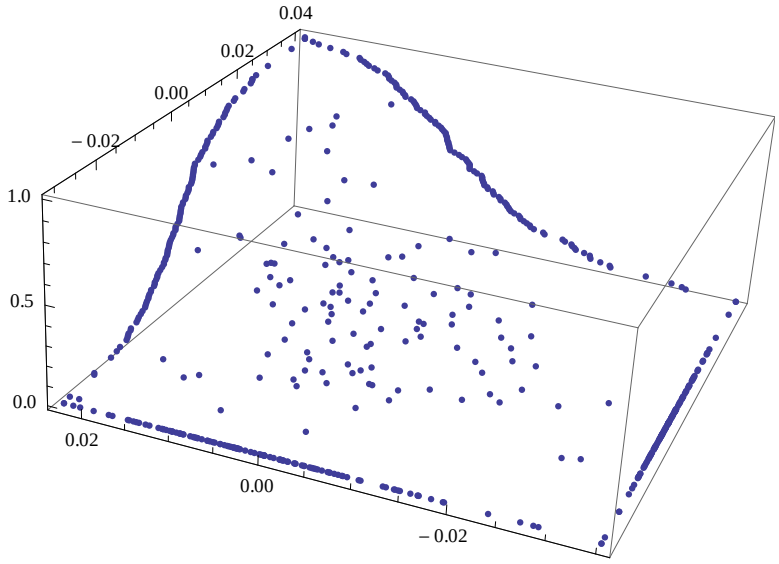
Part::partw : Part 3 of
{{−0.0312825, −0.0298387, −0.0237205, −0.0236975, −0.0193645, −0.0178444, −0.0169541, −0.0152089, −0.0149422, −0.0148138, ≪109≫}, {≪1≫}} does not exist. ≫

```
ListPlot[Transpose[w][[1 ;; 2]], PlotRange → All]
```



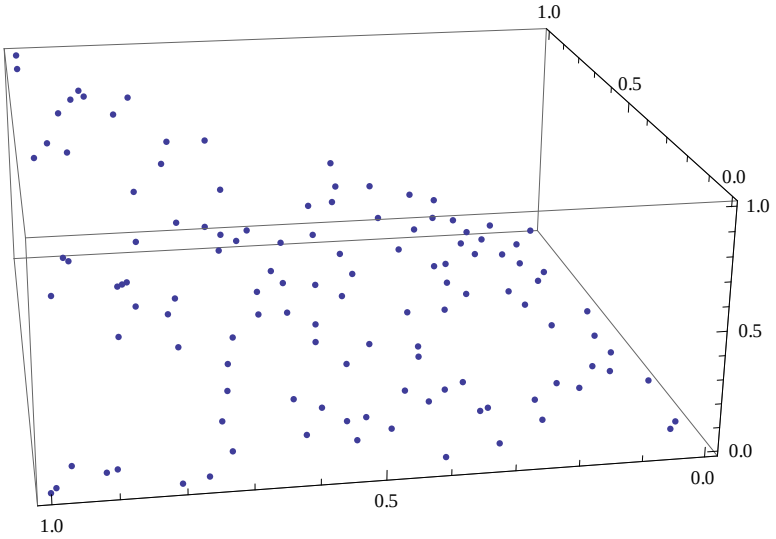

```
min0 = Min[Transpose[w][[1]]]; wN = Length[hedge]; nn = wN;
max0 = Max[Transpose[w][[1]]];
min1 = Min[Transpose[w][[2]]];
max1 = Max[Transpose[w][[2]]];

U = {}; sdax = Sort[dax]; AppendTo[U, {max0, max1, 1}];

For[i = 1, i ≤ nn, i++,
 AppendTo[U, {hedge[[i]], max1, (i - 1) / nn}];
 AppendTo[U, {max0, sdax[[i]], (i - 1) / nn}];
 AppendTo[U, {hedge[[i]], min1, 0}];
 AppendTo[U, {min0, sdax[[i]], 0}];
]

F = {}; For[i = 1, i ≤ wN, i++,
 AppendTo[F, {w[[i, 1]], w[[i, 2]],
    Length[Select[w, #[[1]] < w[[i, 1]] && #[[2]] < w[[i, 2]] &]] / wN}];
]

W = Join[F, U];
```

```
ListPointPlot3D[W]
```

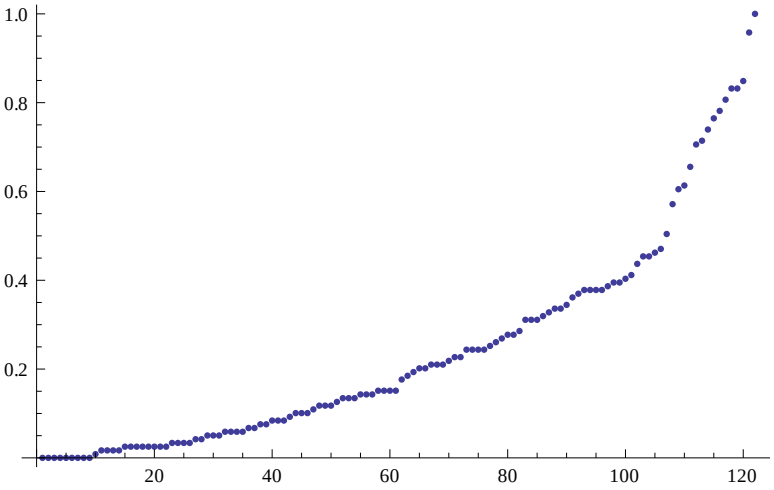



```
hedgeI = Table[{hedge[[i]], (i – 1) / (nn – 1)}, {i, nn}];
daxI = Table[{sdax[[i]], (i – 1) / (nn – 1)}, {i, nn}]; W = F;
Co = Table[{Select[hedgeI, #[[1]] == W[[i, 1]] &][[1, 2]],
   Select[daxI, #[[1]] == W[[i, 2]] &][[1, 2]], W[[i, 3]]}, {i, Length[W]}];
AppendTo[Co, {1, 0, 0}]; AppendTo[Co, {0, 1, 0}]; AppendTo[Co, {1, 1, 1}];
```

```
ListPointPlot3D[Co]
```

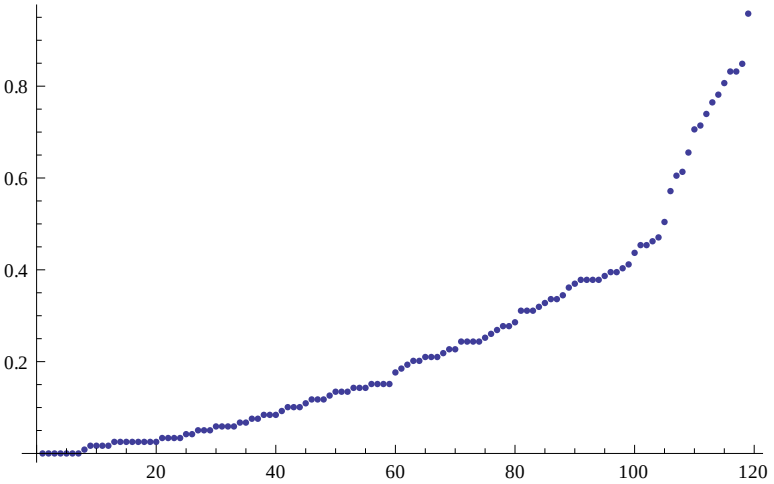


```
ListPlot[Sort[Transpose[Co][[3]]]]
```

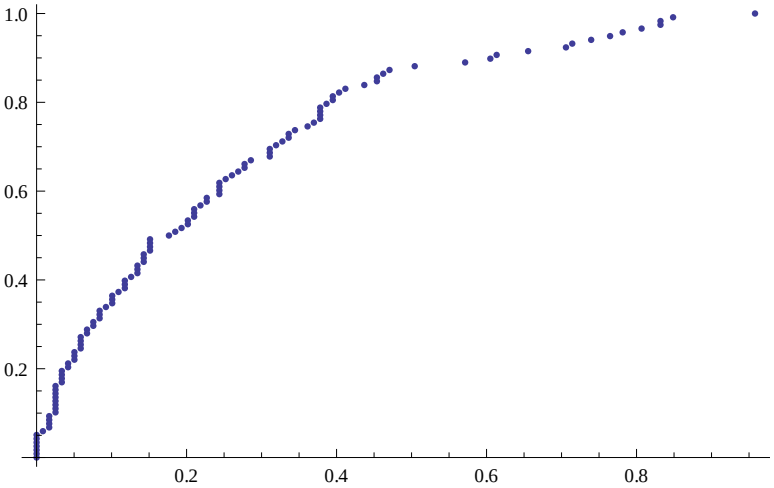



```
co = Sort[Transpose[W][[3]]];
```

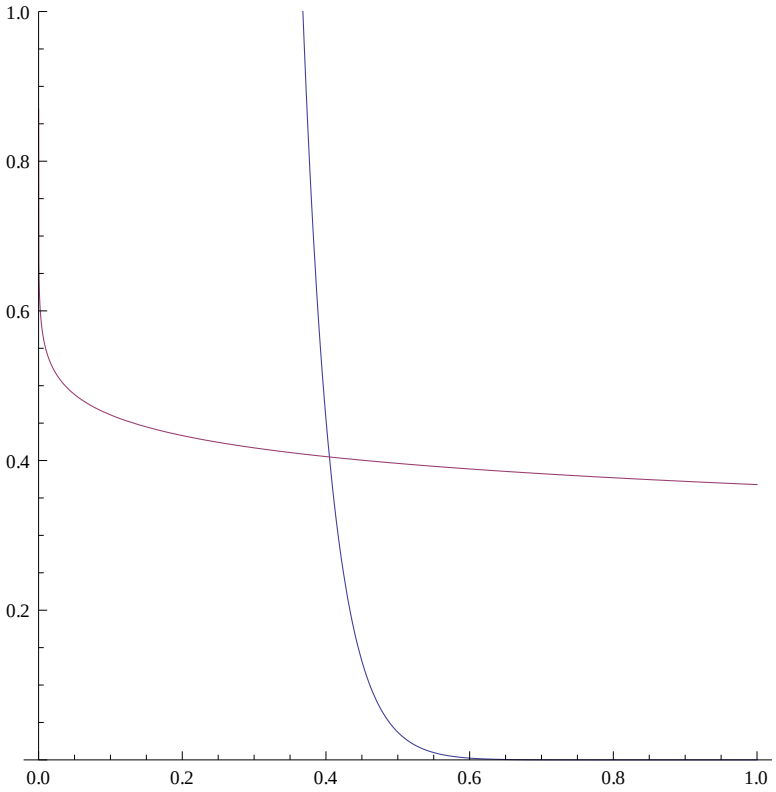
```
ListPlot[Sort[Transpose[W][[3]]]]
```




```
ListPlot[coI]
```



```
o = 9; Plot[{(-Log[x])^o, Exp[-x^(1/o)]},
 {x, 0, 1}, AspectRatio → 1, PlotRange -> {0, 1}]
```

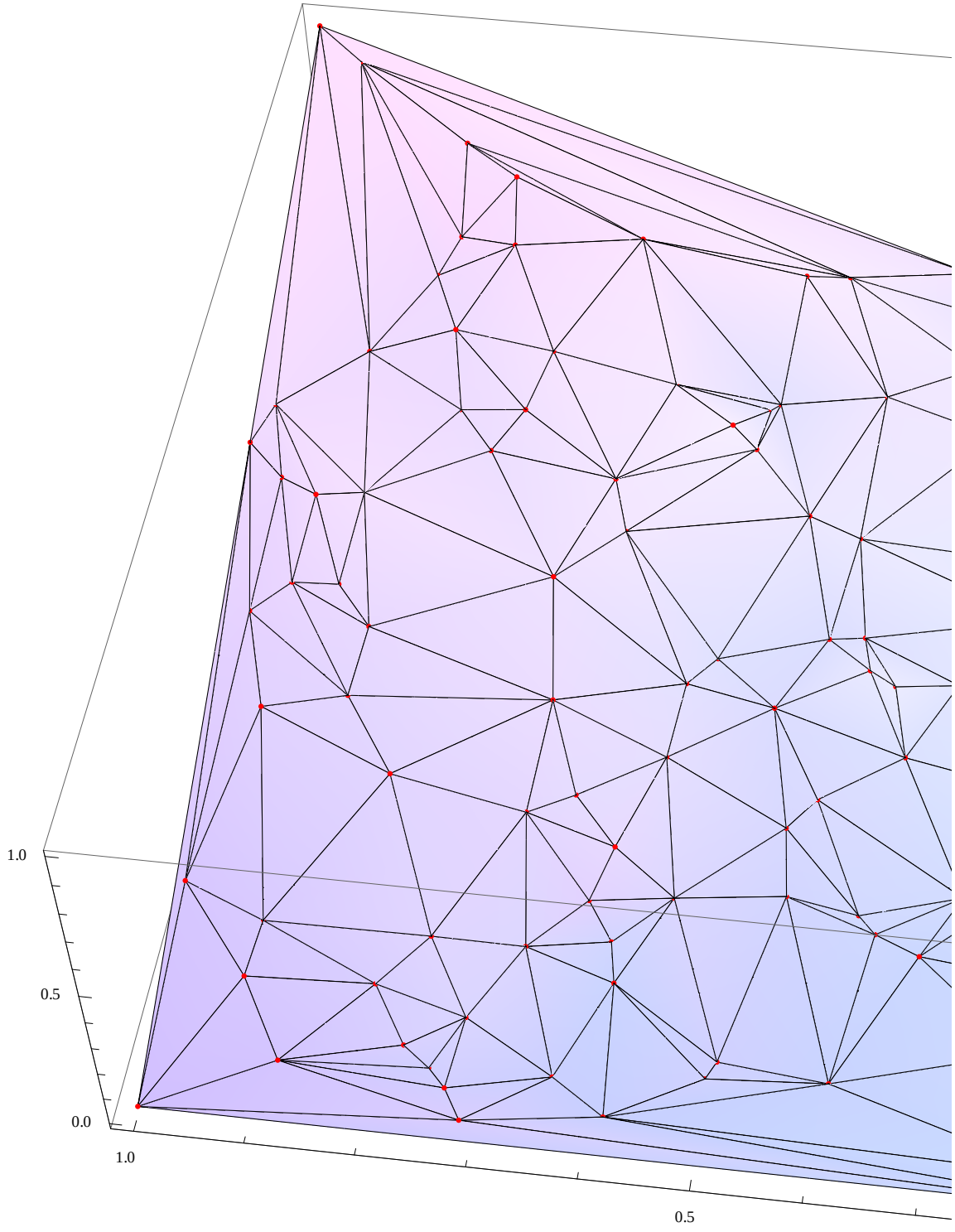



```
Co2 = Table[{Select[hedgeI, #[[1]] == W[[i, 1]] &][[1, 2]],
    Select[coI, #[[1]] == W[[i, 2]] &][[1, 2]], W[[i, 3]]},
  {i, Length[W]}]; AppendTo[Co, {1, 0, 0}];
```

$$\left\{\left\{0, \frac{6}{59}, 0\right\}, \left\{\frac{1}{118}, \frac{3}{118}, 0\right\}, \left\{\frac{1}{59}, \frac{42}{59}, \frac{2}{119}\right\}, \left\{\frac{3}{118}, \frac{21}{118}, \frac{2}{119}\right\}, \left\{\frac{2}{59}, \frac{69}{118}, \frac{3}{119}\right\},\right.$$
$$\left\{\frac{5}{118}, \frac{43}{59}, \frac{5}{119}\right\}, \left\{\frac{3}{59}, \frac{52}{59}, \frac{6}{119}\right\}, \left\{\frac{7}{118}, \frac{44}{59}, \frac{6}{119}\right\}, \left\{\frac{4}{59}, \frac{75}{118}, \frac{4}{119}\right\}, \left\{\frac{9}{118}, \frac{91}{118}, \frac{8}{119}\right\},$$
$$\left\{\frac{5}{59}, \frac{1}{2}, \frac{3}{119}\right\}, \left\{\frac{11}{118}, \frac{23}{59}, \frac{3}{119}\right\}, \left\{\frac{6}{59}, \frac{29}{59}, \frac{4}{119}\right\}, \left\{\frac{13}{118}, \frac{85}{118}, \frac{9}{119}\right\}, \left\{\frac{7}{59}, \frac{109}{118}, \frac{2}{17}\right\},$$
$$\left\{\frac{15}{118}, \frac{95}{118}, \frac{13}{119}\right\}, \left\{\frac{8}{59}, \frac{9}{59}, \frac{2}{119}\right\}, \left\{\frac{17}{118}, \frac{13}{59}, \frac{4}{119}\right\}, \left\{\frac{9}{59}, \frac{5}{59}, \frac{1}{119}\right\}, \left\{\frac{19}{118}, \frac{35}{59}, \frac{10}{119}\right\},$$
$$\left\{\frac{10}{59}, \frac{54}{59}, \frac{19}{119}\right\}, \left\{\frac{21}{118}, \frac{45}{59}, \frac{16}{119}\right\}, \left\{\frac{11}{59}, \frac{40}{59}, \frac{12}{119}\right\}, \left\{\frac{23}{118}, \frac{117}{118}, \frac{23}{119}\right\}, \left\{\frac{12}{59}, \frac{71}{118}, \frac{11}{119}\right\},$$
$$\left\{\frac{25}{118}, \frac{4}{59}, \frac{1}{119}\right\}, \left\{\frac{13}{59}, \frac{25}{118}, \frac{6}{119}\right\}, \left\{\frac{27}{118}, \frac{19}{59}, \frac{8}{119}\right\}, \left\{\frac{14}{59}, \frac{37}{59}, \frac{15}{119}\right\}, \left\{\frac{29}{118}, \frac{43}{118}, \frac{9}{119}\right\},$$
$$\left\{\frac{15}{59}, \frac{65}{118}, \frac{13}{119}\right\}, \left\{\frac{31}{118}, \frac{45}{118}, \frac{10}{119}\right\}, \left\{\frac{16}{59}, \frac{53}{118}, \frac{12}{119}\right\}, \left\{\frac{33}{118}, \frac{16}{59}, \frac{8}{119}\right\},$$
$$\left\{\frac{17}{59}, \frac{36}{59}, \frac{20}{119}\right\}, \left\{\frac{35}{118}, \frac{17}{59}, \frac{9}{119}\right\}, \left\{\frac{18}{59}, \frac{41}{59}, \frac{25}{119}\right\}, \left\{\frac{37}{118}, \frac{97}{118}, \frac{33}{119}\right\}, \left\{\frac{19}{59}, \frac{10}{59}, \frac{5}{119}\right\},$$
$$\left\{\frac{39}{118}, \frac{77}{118}, \frac{25}{119}\right\}, \left\{\frac{20}{59}, \frac{27}{59}, \frac{16}{119}\right\}, \left\{\frac{41}{118}, \frac{14}{59}, \frac{9}{119}\right\}, \left\{\frac{21}{59}, \frac{56}{59}, \frac{41}{119}\right\}, \left\{\frac{43}{118}, \frac{8}{59}, \frac{4}{119}\right\},$$

$$\left\{\frac{22}{59}, \frac{51}{118}, \frac{1}{7}\right\}, \left\{\frac{45}{118}, \frac{103}{118}, \frac{40}{119}\right\}, \left\{\frac{23}{59}, \frac{34}{59}, \frac{23}{119}\right\}, \left\{\frac{47}{118}, \frac{27}{118}, \frac{10}{119}\right\}, \left\{\frac{24}{59}, \frac{1}{59}, 0\right\},$$
$$\left\{\frac{49}{118}, \frac{81}{118}, \frac{2}{7}\right\}, \left\{\frac{25}{59}, \frac{33}{118}, \frac{2}{17}\right\}, \left\{\frac{51}{118}, \frac{21}{59}, \frac{1}{7}\right\}, \left\{\frac{26}{59}, \frac{115}{118}, \frac{3}{7}\right\}, \left\{\frac{53}{118}, \frac{51}{59}, \frac{46}{119}\right\},$$
$$\left\{\frac{27}{59}, \frac{57}{118}, \frac{24}{119}\right\}, \left\{\frac{55}{118}, \frac{67}{118}, \frac{4}{17}\right\}, \left\{\frac{28}{59}, \frac{111}{118}, \frac{53}{119}\right\}, \left\{\frac{57}{118}, \frac{53}{59}, \frac{3}{7}\right\}, \left\{\frac{29}{59}, \frac{2}{59}, \frac{2}{119}\right\},$$
$$\left\{\frac{1}{2}, \frac{32}{59}, \frac{4}{17}\right\}, \left\{\frac{30}{59}, \frac{22}{59}, \frac{20}{119}\right\}, \left\{\frac{61}{118}, \frac{47}{118}, \frac{23}{119}\right\}, \left\{\frac{31}{59}, \frac{37}{118}, \frac{1}{7}\right\}, \left\{\frac{63}{118}, \frac{83}{118}, \frac{45}{119}\right\},$$
$$\left\{\frac{32}{59}, \frac{26}{59}, \frac{26}{119}\right\}, \left\{\frac{65}{118}, \frac{24}{59}, \frac{25}{119}\right\}, \left\{\frac{33}{59}, \frac{55}{59}, \frac{62}{119}\right\}, \left\{\frac{67}{118}, \frac{57}{59}, \frac{65}{119}\right\}, \left\{\frac{34}{59}, \frac{105}{118}, \frac{59}{119}\right\},$$
$$\left\{\frac{69}{118}, \frac{11}{118}, \frac{5}{119}\right\}, \left\{\frac{35}{59}, 1, \frac{10}{17}\right\}, \left\{\frac{71}{118}, \frac{38}{59}, \frac{44}{119}\right\}, \left\{\frac{36}{59}, \frac{5}{118}, \frac{3}{119}\right\}, \left\{\frac{73}{118}, \frac{29}{118}, \frac{16}{119}\right\},$$
$$\left\{\frac{37}{59}, \frac{23}{118}, \frac{12}{119}\right\}, \left\{\frac{75}{118}, \frac{58}{59}, \frac{73}{119}\right\}, \left\{\frac{38}{59}, \frac{46}{59}, \frac{59}{119}\right\}, \left\{\frac{77}{118}, \frac{39}{59}, \frac{7}{17}\right\}, \left\{\frac{39}{59}, \frac{25}{59}, \frac{30}{119}\right\},$$
$$\left\{\frac{79}{118}, \frac{28}{59}, \frac{5}{17}\right\}, \left\{\frac{40}{59}, \frac{48}{59}, \frac{64}{119}\right\}, \left\{\frac{81}{118}, \frac{31}{118}, \frac{18}{119}\right\}, \left\{\frac{41}{59}, \frac{89}{118}, \frac{61}{119}\right\},$$
$$\left\{\frac{83}{118}, \frac{17}{118}, \frac{9}{119}\right\}, \left\{\frac{42}{59}, \frac{107}{118}, \frac{74}{119}\right\}, \left\{\frac{85}{118}, \frac{11}{59}, \frac{13}{119}\right\}, \left\{\frac{43}{59}, \frac{63}{118}, \frac{6}{17}\right\},$$
$$\left\{\frac{87}{118}, \frac{7}{59}, \frac{8}{119}\right\}, \left\{\frac{44}{59}, \frac{33}{59}, \frac{46}{119}\right\}, \left\{\frac{89}{118}, \frac{49}{59}, \frac{73}{119}\right\}, \left\{\frac{45}{59}, \frac{87}{118}, \frac{65}{119}\right\}, \left\{\frac{91}{118}, \frac{73}{118}, \frac{53}{119}\right\},$$
$$\left\{\frac{46}{59}, \frac{31}{59}, \frac{43}{119}\right\}, \left\{\frac{93}{118}, \frac{61}{118}, \frac{43}{119}\right\}, \left\{\frac{47}{59}, \frac{15}{118}, \frac{9}{119}\right\}, \left\{\frac{95}{118}, \frac{101}{118}, \frac{79}{119}\right\},$$
$$\left\{\frac{48}{59}, \frac{15}{59}, \frac{22}{119}\right\}, \left\{\frac{97}{118}, \frac{18}{59}, \frac{27}{119}\right\}, \left\{\frac{49}{59}, \frac{49}{118}, \frac{37}{119}\right\}, \left\{\frac{99}{118}, \frac{1}{118}, 0\right\}, \left\{\frac{50}{59}, \frac{99}{118}, \frac{83}{119}\right\},$$
$$\left\{\frac{101}{118}, \frac{93}{118}, \frac{79}{119}\right\}, \left\{\frac{51}{59}, \frac{12}{59}, \frac{18}{119}\right\}, \left\{\frac{103}{118}, \frac{13}{118}, \frac{9}{119}\right\}, \left\{\frac{52}{59}, \frac{3}{59}, \frac{5}{119}\right\}, \left\{\frac{105}{118}, \frac{39}{118}, \frac{2}{7}\right\},$$
$$\left\{\frac{53}{59}, 0, 0\right\}, \left\{\frac{107}{118}, \frac{79}{118}, \frac{71}{119}\right\}, \left\{\frac{54}{59}, \frac{35}{118}, \frac{32}{119}\right\}, \left\{\frac{109}{118}, \frac{47}{59}, \frac{87}{119}\right\}, \left\{\frac{55}{59}, \frac{30}{59}, \frac{54}{119}\right\},$$
$$\left\{\frac{111}{118}, \frac{50}{59}, \frac{94}{119}\right\}, \left\{\frac{56}{59}, \frac{55}{118}, \frac{50}{119}\right\}, \left\{\frac{113}{118}, \frac{20}{59}, \frac{37}{119}\right\}, \left\{\frac{57}{59}, \frac{19}{118}, \frac{1}{7}\right\}, \left\{\frac{115}{118}, \frac{9}{118}, \frac{8}{119}\right\},$$
$$\left\{\frac{58}{59}, \frac{113}{118}, \frac{111}{119}\right\}, \left\{\frac{117}{118}, \frac{7}{118}, \frac{1}{17}\right\}, \left\{1, \frac{41}{118}, \frac{41}{119}\right\}, \{1, 0, 0\}, \{0, 1, 0\}, \{1, 1, 1\}\}$$

```
Show[ListPlot3D[Co, Mesh → All], ListPointPlot3D[Co, PlotStyle → Red]]
```


1.0
0.5
0.0
1.0
0.5