

CIPS

Cinderella - Intergeo - GeoProofScheme

Group 2

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```

→ CIPS java -jar cips.jar --help
Missing required options: j, i, o
usage: java -jar cips.jar -j <job-type> -i <cinderella file> -o <intergeo file>
      java -jar cips.jar -j g2i -p <geoproofscheme file> -o <intergeo file> -p
      [parameter] -v [variable]
      java -jar cips.jar -j vc -i <cinderella file> -o <visualization file>
      java -jar cips.jar -j vi -i <intergeo file> -o <visualization file>
      java -jar cips.jar -j vg -i <geoproofscheme file> -o <visualization file>
      -p [parameter] -v [variable]

-h,--help          print this message
-i,--input <arg>   input file path
-j,--job-type <arg> "c2i": cinderella to intergeo,
                    "g2i": geoproofscheme to intergeo,
                    "vc": cinderella visualisation with jsxgraph,
                    "vi": intergeo visualisation with jsxgraph,
                    "vg": geoproofscheme visualisation with jsxgraph
-o,--output <arg>  output file path
-p,--parameter <arg> parameter file path
-v,--variable <arg> variable file path
  
```

Convert GeoProofScheme to Intergeo

Usage:

```
java -jar cips.jar -j g2i
                        -i <path to geoproofscheme file>
                        -o <path to intergeo file>
                        -p [path to parameter file]
                        -v [path to variable file]
```

Convert GeoProofScheme to Intergeo

Example: geoproofscheme_test.xml

```
<Construction>
<Title>geoproofscheme_test</Title>
<prooftype> equational </prooftype>
<vars>x1,x2,x3,x4,x5,x6,x7,x8,x9</vars>
<parameters>u1,u2</parameters>
<Points>
<Point id='$c_0' type='free'>Point[2, 4]</Point>
<Point id='$c_1' type='free'>Point[u1, u2]</Point>
<Point id='$c_2' type='free'>Point[x1, x2]</Point>
<Point id='$c_3' type='free'>Point[x3, x4]</Point>
<Point id='$c_4' type='free'>Point[x2, x1]</Point>
<Point id='$c_5' type='free'>Point[x6, x5]</Point>
<Point id='$c_6' type='free'>Point[x7, x8]</Point>
<Point id='$c_7' type='free'>Point[-5, x9]</Point>
</Points>
<Assignments>
<Line id='$c_20'>pp_line[$c_0, $c_1]</Line>
<Line id='$c_21'>pp_line[$c_2, $c_3]</Line>
<Line id='$c_22'>par_line[$c_4, $c_20]</Line>
<Line id='$c_23'>par_line[$c_5, $c_22]</Line>
<Point id='$c_24'>midpoint[$c_2, $c_1]</Point>
<Point id='$c_25'>midpoint[$c_24, $c_6]</Point>
<Point id='$c_26'>midpoint[$c_24, $c_25]</Point>
<Line id='$c_27'>ortho_line[$c_7, $c_23]</Line>
<Point id='$c_28'>intersection_point[$c_23, $c_21]</Point>
<Circle id='$c_29'>pc_circle[$c_28, $c_24]</Circle>
<Circle id='$c_30'>p3_circle[$c_3, $c_0, $c_6]</Circle>
<Circle id='$c_31'>p3_circle[$c_4, $c_24, $c_25]</Circle>
<Line id='$c_32'>pp_line[$c_6, $c_7]</Line>
<Line id='$c_33'>pp_line[$c_28, $c_4]</Line>
<Point id='$c_34'>intersection_point[$c_32, $c_33]</Point>
</Assignments>
```

Parameters:

u1 5.0
u2 2.0

Variables:

x1 5
x2 9
x3 -6
x4 7
x5 8
x6 14
x7 0
x8 -4
x9 2

Convert GeoProofScheme to Intergeo

Example: geoproofscheme_test.xml

```
java -jar cips.jar -j g2i  
                    -i geoproofscheme_test.xml  
                    -o intergeo_from_geoproofscheme.xml  
                    -p parameters.txt  
                    -v variables.txt
```

Visualize GeoProofScheme

Usage:

```
java -jar cips.jar -j vg  
                    -i <path to geoproofscheme file>  
                    -o <path to visualization file>  
                    -p [path to parameter file]  
                    -v [path to variable file]
```

Visualize GeoProofScheme

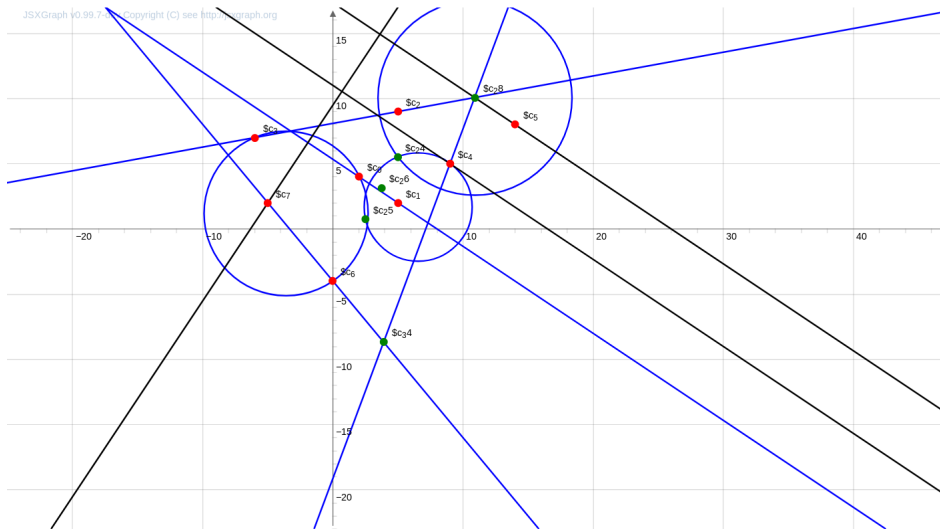
Example: Visualize geoproofscheme_test.xml

```
java -jar cips.jar -j vg  
                    -i geoproofscheme_test.xml  
                    -o geoproofscheme_test.html  
                    -p parameters.txt  
                    -v variables.txt
```

Visualize GeoProofScheme

Example: Visualize `geoproofscheme_test.xml`
geoproofscheme_test

JSXGraph v0.99.7-2017 Copyright (C) see <http://jsxgraph.org>



Compare with above converted Intergeo

Example: Visualize geoproofscheme_test.xml

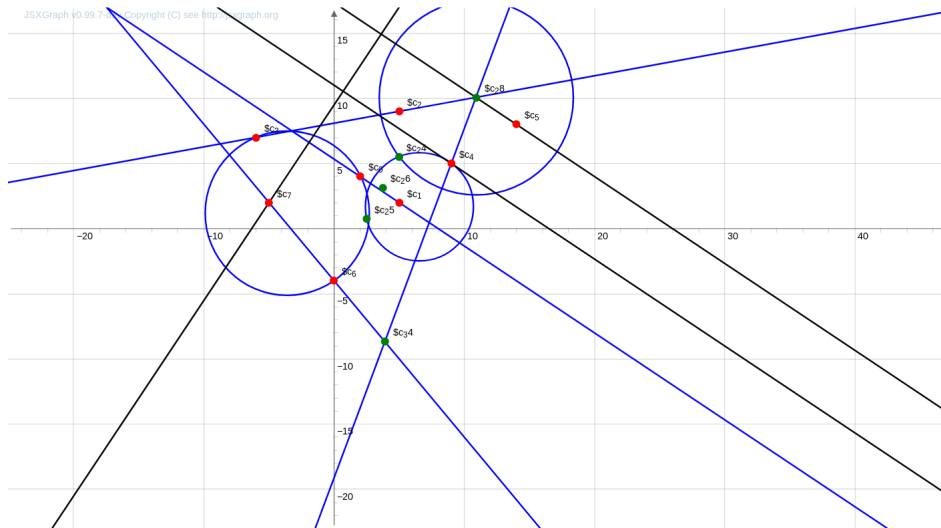
```
java -jar cips.jar -j vi  
                -i intergeo_from_geoproofscheme.xml  
                -o intergeo_from_geoproofscheme.html
```

Compare with above converted Intergeo

Example: Visualize intergeo_from_geoproofscheme.xml

intergeo_from_geoproofscheme.xml

JSXGraph v0.99.7-2016 Copyright (C) see <http://jsxgraph.org>



G2I - Transformation Status

GeoProofScheme Elements that are convertible with CIPS:

GeoProofScheme Element	Corresponding Intergeo Element
free_point	free_point
intersection_point	point_intersection_of_two_lines
midpoint	midpoint_of_two_points
pp_line	line_through_two_points
par_line	line_parallel_to_line_through_point
ortho_line	line_perpendicular_to_line_through_point
pc_circle	circle_by_center_and_point
p3_circle	circle_by_three_points

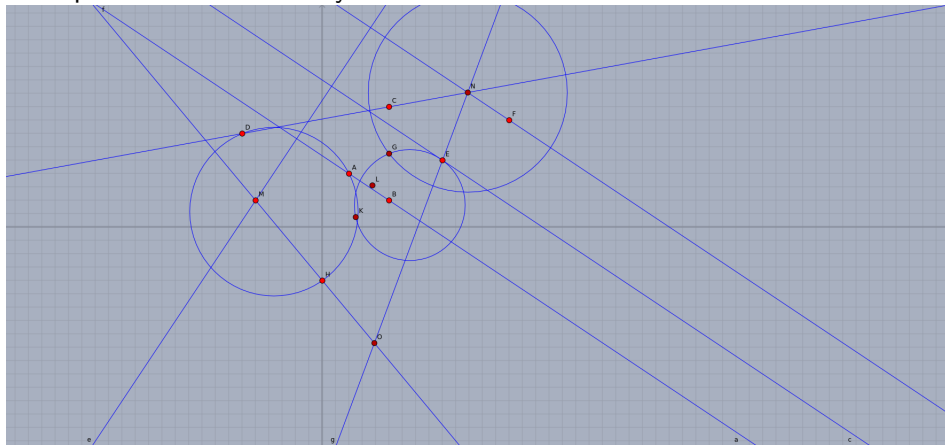
Convert Cinderella to Intergeo

Example: cinderella_test.cdy

```
java -jar cips.jar -j c2i  
                    -i cinderella_test.cdy  
                    -o intergeo_from_cinderella.xml
```

Visualize Cinderella

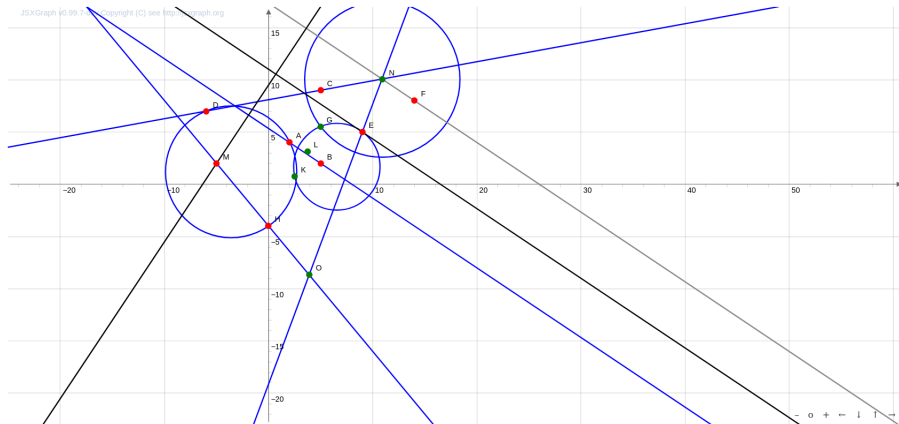
Example: cinderella_test.cdy



Visualize Cinderella

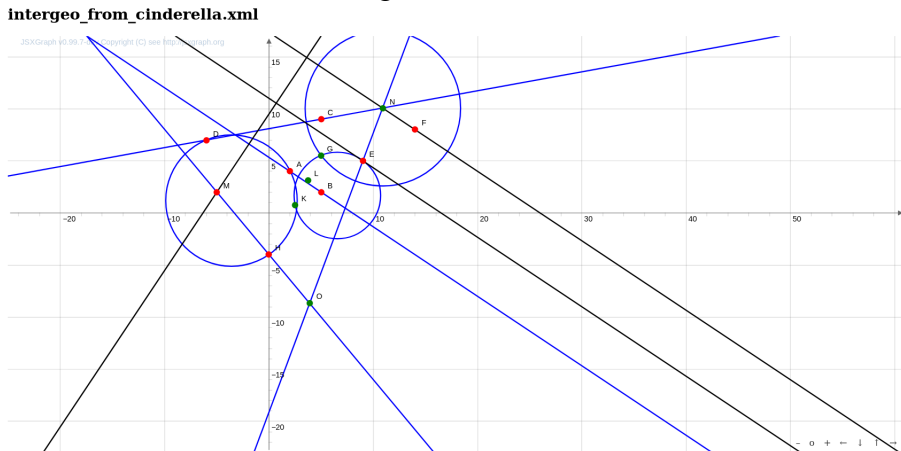
Visualize cinderella_test.cdy with CIPS

cinderella_test.cdy



Visualize Cinderella

Visualize above converted intergeo_from_cinderella.xml



C2I - Transformation Status

Cinderella Elements that are convertible with CIPS:

Cinderella Element	Corresponding Intergeo Element
FreePoint	free_point
Meet	point_intersection_of_two_lines
Mid	midpoint_of_two_points
Join	line_through_two_points
Parallel	line_parallel_to_line_through_point
Orthogonal	line_perpendicular_to_line_through_point
CircleMP	circle_by_center_and_point
CircleBy3	circle_by_three_points