Practical-12
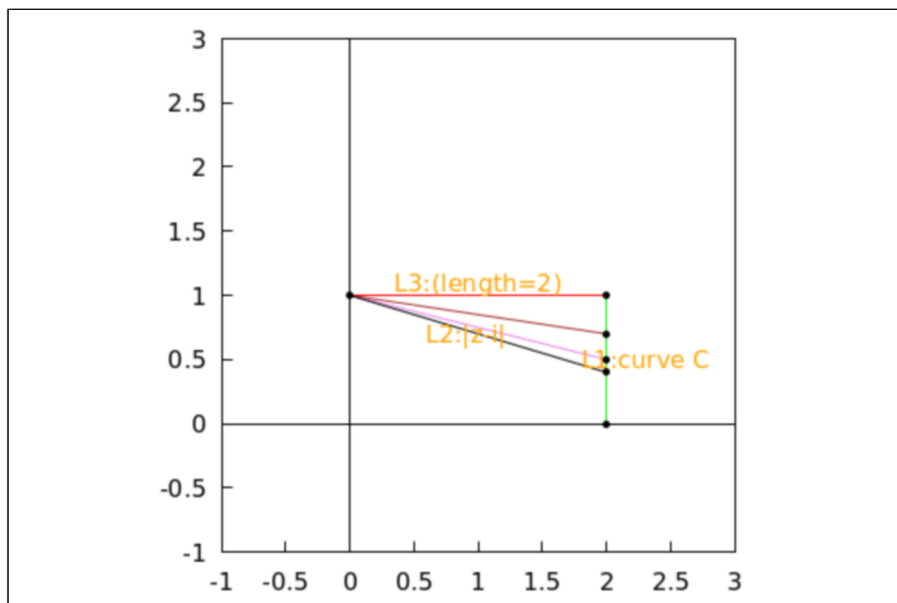
1 **To draw the line L1 from 2 to 2+i ,L2 from the point z on the line**
L1(say 2+i/2) to the point i and line L3 from the point i to 2+i and hence find lower bounds of |z-i|

(%i1)   wxdraw2d(
        xaxis=true, xaxis_type=solid,xrange=[−1,3],
        yaxis=true,yaxis_type=solid,yrange=[−1,3],
        proportional_axes=xy,
        color=green,
        parametric(2,t,t,0,1),
        color=violet,
        parametric(2−2·t,(1+t)/2,t,0,1),
        color=red,
        parametric(2·t,1,t,0,1),
            color=brown,
            parametric(2−2·t,(0.3·t+0.7),t,0,1),
            color=black,
            parametric(2−2·t,(0.6·t+0.4),t,0,1),
        color=orange,
        label(["L1:curve C",2.3,0.5]),
        label(["L2:|z−i|",0.9,0.7]),
        label(["L3:(length=2)",1.0,1.1]),
        color=black,
        point_type=7,
        point_size=0.65,
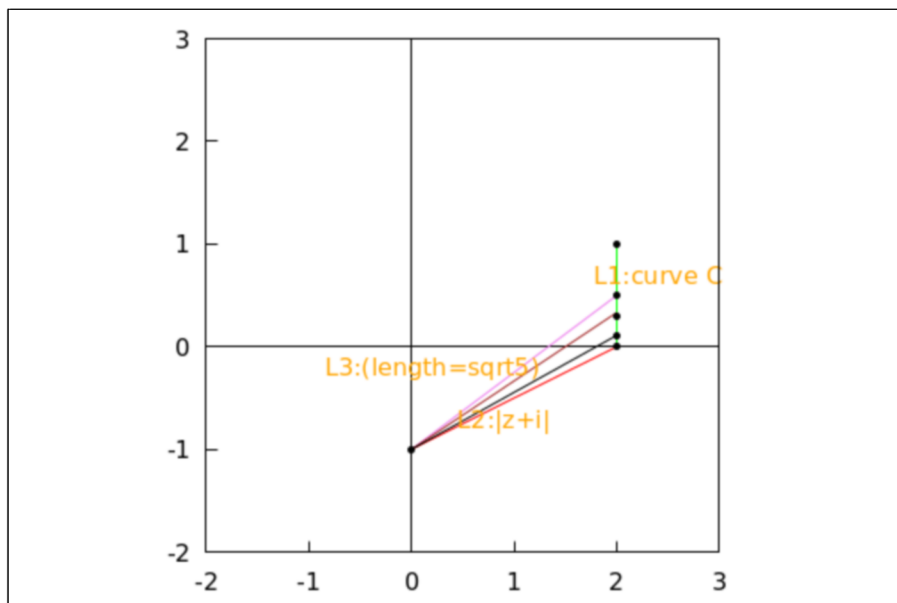   points([[2,0],[2,1],[0,1],[2,1/2],[2,0.4],[2,0.7]]));

(%t1)

(%o1)

2   To draw the line L1 from 2 to 2+i ,L2 from the point z on the line L1(say 2+i/2) to the point -i and line L3 from the point -i to 2 and hence find lower bounds of |z-i| on c

(%i4) `wxdraw2d(`
`xaxis=true, xaxis_type=solid,xrange=[−2,3],`
`yaxis=true,yaxis_type=solid,yrange=[−2,3],`
`proportional_axes=xy,`
`color=green,`
`parametric(2,t,t,0,1),`
`color=violet,`
`parametric(2−2·t,(1−3·t)/2,t,0,1),`
`color=red,`
`parametric(2·t,t−1,t,0,1),`
`   color=brown,`
`   parametric(2·t,(4·t−3)/3,t,0,1),`
`   color=black,`
`   parametric(2·t,(10·t−9)/9,t,0,1),`
`color=orange,`
`label(["L1:curve C",2.4,0.7]),`
`label(["L2:|z+i|",0.9,−0.7]),`
`label(["L3:(length=√5)",0.2,−0.2]),`
`color=black,`
`point_type=7,`
`point_size=0.65,`
`points([[2,0],[2,1],[0,−1],[2,1/2],[2,0.1],[2,0.3]]));`

(%t4)

(%o4)