

5th - point. sml

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#SML that finds the 5th closest point from each grid point
#T.Waza, 2004Apr8

clear ();
vector Vref;
GetInputVector (Vref);
numeric n=NumVectorPoints (Vref);
print ("Point count: ", n);

Vector Vin;
GetInputVector (Vin);
string filename$=GetObjectFileName (Vin);
numeric objNum = GetObjectNumber (Vin);
string objectName$ = GetObjectName (filename$, objNum);

numeric maxDistance=1000;
#class FILE f;
#f=fopen ("d:/junk.txt", "r+");
vector Vout, Vout2;
GetOutputVector (Vout, "VectorToolkit");
cad Cout;
GetOutputCAD (Cout);

#change to your setting
CreateProjectFile ("d:/temp.rvc", "Project file created in SML");
string destfile$="d:/temp.rvc";

#class Georef georef;
#georef = GetGeorefObject (Vin);

numeric i;
for i=1 to n begin

    numeric x0 = Vref.point [i].Internal.x;
    numeric y0 = Vref.point [i].Internal.y;

    CopyObject (filename$, objNum, destfile$);
    vector VTemp;
    OpenVector (VTemp, destfile$, objectName$, "VectorToolkit");
#    CopySubobjects (Vin, VTemp);
#    georef = GetGeorefObject (VTemp);
#    georef = GetLastUsedGeorefObject (VTemp);

    # Find 5th ClosestPoint
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        numeric j;
        for j=1 to 4 begin
            #numeric num = FindClosestPoint (VTemp, x0, y0,
georef, maxDistance);
            numeric num = FindClosestPoint (VTemp, x0, y0);
            print (num);

            numeric x1 = VTemp.point[num].Internal.x;
            numeric y1 = VTemp.point[num].Internal.y;
            VectorAddTwoPointLine (Vout, x0, y0, x1, y1);

            VectorDeletePoint (VTemp, num);
        end

```

```

        numeric num = FindClosestPoint (VTemp, x0, y0);
        print (num);
        numeric x1 = VTemp.point[num].Internal.x;
        numeric y1 = VTemp.point[num].Internal.y;

#        fprintf (f, i, x0, y0, x1, y1);
        VectorAddTwoPointLine (Vout, x0, y0, x1, y1);

        numeric rad = sqrt (sqr (x0-x1)+sqr (y0-y1));
        CADWriteCircle (Cout, 1, x0, y0, rad);

        DeleteObject (destfile$, 1);

```

end

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#numeric numLines = NumVectorLines (Vout);
#print ("number of lines: ", numLines);

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CloseCAD (Cout);
#fclose (f);
CloseVector (Vout);
CloseVector (VTemp);
CloseVector (Vin);
CloseVector (Vref);

```

**Spatial Data Display**

**Spatial Manipulation**

File Edit Insert

For i=1 to n begin

numeric x0 = Vref.

numeric y0 = Vref.

**Group 1 - Group Controls**

Group Layer Options Help

- Vout5 / Vout1
- Vout5 / C1
- test / Vector
- test / grid

```

print(num);
numeric x1 = VTemp;
numeric y1 = VTemp;
# fprint(F, i, x0, y0, x1, y1);
VectorAddTwoPoints(x0, y0, x1, y1);
numeric rad = sqrt((x1-x0)^2 + (y1-y0)^2);
CADWriteCircle(Cou, x0, y0, rad);
DeleteObject(destF);
end
#numeric numLines = N;
#print("number of lines: " + numLines);
Time to execute SHL s

```

**Console Window**

```

33
51
6
20
25
5

```

