

```
i ($L-)
100 {*****}
110 {*   HISOFT SCALES                Version 1.1                10/01/1987   *}
120 {*                               by Alwin Ertl                *}
130 {*****}
140
150 PROGRAM coordinates;
160
170  CONST
180     maxscales = 10;
190     pi = 3.14159;
200
210  TYPE
220     scalerec = RECORD
230         xscale, xp, yscale, yp : real
240     END;
250     windows = ARRAY [0..maxscales] OF scalerec;
260
270  VAR
280     xscaleact, xpact, yscaleact, ypact : real;
```

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290   sc : windows;
300   i : integer; {nur fuer Demo!}
310
320  PROCEDURE initscales;
330   BEGIN
340     sc[0].xscale := 1;
350     sc[0].yscale := 1;
360     sc[0].xp := 0;
370     sc[0].yp := 0
380   END;
390
400  PROCEDURE usescale (z : integer);
410   BEGIN
420     xscaleact := sc[z].xscale;
430     yscaleact := sc[z].yscale;
440     xpact := sc[z].xp;
450     ypact := sc[z].yp
460   END;
470
480  PROCEDURE setscale (z : integer; xu,xo,yu,yo : real);
490   BEGIN
500     sc[z].xscale := 639 / (xo-xu);
510     sc[z].yscale := 399 / (yo-yu);
520     sc[z].xp := -xu * sc[z].xscale;
530     sc[z].yp := -yu * sc[z].yscale
540   END;
550
560  FUNCTION screenx (z : real) : integer;
570   BEGIN
580     screenx := round (z*xscaleact + xpact)
590   END;
600
610  FUNCTION screeny (z : real) : integer;
620   BEGIN
630     screeny := round (z*yscaleact + ypact)
640   END;
650
660  PROCEDURE move (x, y : real);
670   BEGIN
680     rde := screenx (x);
690     rhl := screeny (y);
700     user (#bbc0) {gra move absolute}
710   END;
720
730  PROCEDURE plot (x, y : real);
740   BEGIN
750     rde := screenx (x);
760     rhl := screeny (y);
770     user (#bbea) {gra plot absolute}
780   END;
790
800  PROCEDURE draw (x, y : real);
810   BEGIN
820     rde := screenx (x);
830     rhl := screeny (y);
840     user (#bbf6) {gra line absolute}
850   END;
860
870
880  PROCEDURE sinus; {nur fuer Demo!}
890   VAR
900     x : real;
910   BEGIN
920     x := 0;
930     move (x,sin(x));
940     WHILE x < 4*pi DO
950       BEGIN
960         x := x + 0.01;
970         draw (x,sin(x))
980       END
990     END;
1000
1010  BEGIN
1020   page;
1030   initscales;
1040   FOR i := 1 TO 4 DO
1050     setscale (i,0,i*pi,-1,1);
1070   FOR i := 4 DOWNTO 1 DO
1080     BEGIN
1090       usescale (i);
1100       sinus
1110     END
1120  END.

```