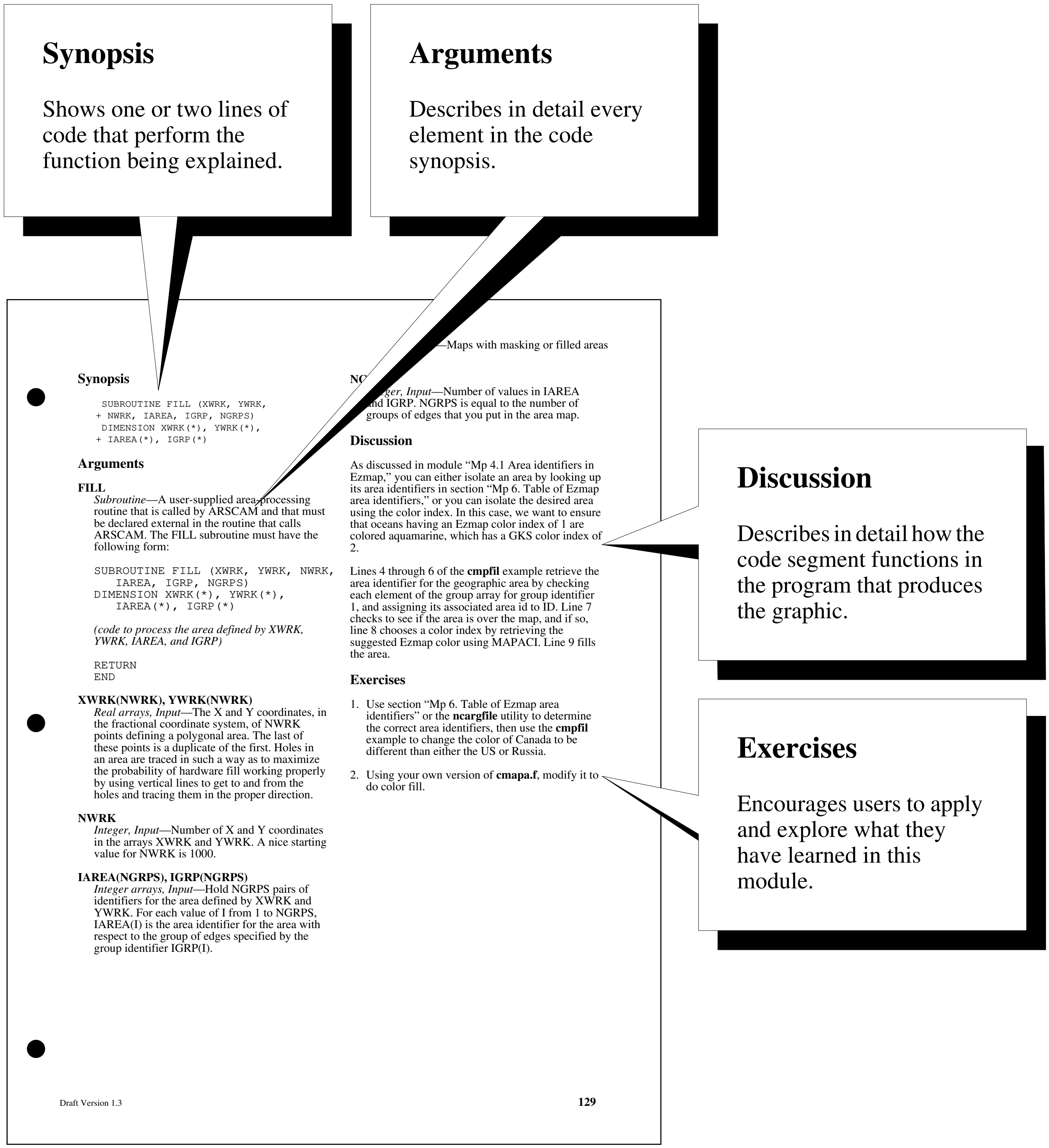

—Maps with masking or filled areas

Synopsis

```
  SUBROUTINE FILL (XWRK, YWRK,
+ NWRK, IAREA, IGRP, NGRPS)
  DIMENSION XWRK(*), YWRK(*),
+ IAREA(*), IGRP(*)
```

Arguments

FILL
Subroutine—A user-supplied area-processing routine that is called by ARSCAM and that must be declared external in the routine that calls ARSCAM. The FILL subroutine must have the following form:

```
SUBROUTINE FILL (XWRK, YWRK, NWRK,
   IAREA, IGRP, NGRPS)
DIMENSION XWRK(*), YWRK(*),
   IAREA(*), IGRP(*)
```

(code to process the area defined by XWRK, YWRK, IAREA, and IGRP)

```
RETURN
END
```

XWRK(NWRK), YWRK(NWRK)
Real arrays, Input—The X and Y coordinates, in the fractional coordinate system, of NWRK points defining a polygonal area. The last of these points is a duplicate of the first. Holes in an area are traced in such a way as to maximize the probability of hardware fill working properly by using vertical lines to get to and from the holes and tracing them in the proper direction.

NWRK
Integer, Input—Number of X and Y coordinates in the arrays XWRK and YWRK. A nice starting value for NWRK is 1000.

IAREA(NGRPS), IGRP(NGRPS)
Integer arrays, Input—Hold NGRPS pairs of identifiers for the area defined by XWRK and YWRK. For each value of I from 1 to NGRPS, IAREA(I) is the area identifier for the area with respect to the group of edges specified by the group identifier IGRP(I).

NC
ger, Input—Number of values in IAREA nd IGRP. NGRPS is equal to the number of groups of edges that you put in the area map.

Discussion

As discussed in module "Mp 4.1 Area identifiers in Ezmap," you can either isolate an area by looking up its area identifiers in section "Mp 6. Table of Ezmap area identifiers," or you can isolate the desired area using the color index. In this case, we want to ensure that oceans having an Ezmap color index of 1 are colored aquamarine, which has a GKS color index of 2.

Lines 4 through 6 of the **cmpfil** example retrieve the area identifier for the geographic area by checking each element of the group array for group identifier 1, and assigning its associated area id to ID. Line 7 checks to see if the area is over the map, and if so, line 8 chooses a color index by retrieving the suggested Ezmap color using MAPACI. Line 9 fills the area.

Exercises

1. Use section "Mp 6. Table of Ezmap area identifiers" or the **ncargfile** utility to determine the correct area identifiers, then use the **cmpfil** example to change the color of Canada to be different than either the US or Russia.
2. Using your own version of **cmapa.f**, modify it to do color fill.

Draft Version 1.3 **129**