12.SEGMENTATION USING WATERSHED TRANSFORM

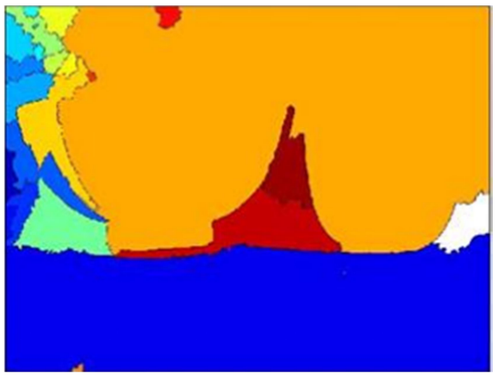
PROGRAM:

```
clc ;
close ;

b = imread ( 'F:\2.jpg' ) ;
a = rgb2gray ( b ) ;
global EDGE_SOBEL ;
Gradient = EdgeFilter (a , EDGE_SOBEL ) ;
Threshold1 = CalculateOtsuThreshold ( Gradient ) ;
EdgeImage = ~ SegmentByThreshold ( Gradient , Threshold1 );
DistanceImage = DistanceTransform ( EdgeImage ) ;
Threshold2 = CalculateOtsuThreshold ( DistanceImage )
ThresholdImage = SegmentByThreshold ( DistanceImage ,Threshold2 ) ;
MarkerImage = SearchBlobs ( ThresholdImage );
SegmentedImage = Watershed ( Gradient , MarkerImage ) ;
figure
imshow (b);
title ('original image');
figure
ColorMapLength = length ( unique ( SegmentedImage ) ) ;
imshow( SegmentedImage,'Result of WatershedTransform',jetcolormap(ColorMapLength)) ;
```

OUTPUT:

(Fig:1)Original Image



(Fig:2)Watershed Image