```
% Read the image
img = imread('twentyfivecoins.png');
figure
imshow(img)

% Convert to grayscale
grayImg = rgb2gray(img);
figure
imshow(grayImg)
% Apply Gaussian filter to smooth the image
filteredImg = imgaussfilt(grayImg, 2);
figure
imshow(filteredImg)

% Convert to binary image using Otsu's thresholding method
bw = imbinarize(filteredImg);
figure
imshow(bw)

% Invert the binary image
bw = ~bw;
imshow(bw)

% Fill holes in the binary image
bw = imfill(bw, 'holes');
imshow(bw)
```

```
% Remove small objects that are not coins
bw = bwareaopen(bw, 100);
imshow(bw)
```

```
% Smooth the coin boundaries
se = strel('disk', 5);
bw = imclose(bw, se);
imshow(bw)
% Label the connected components in a 2-D binary image
[labeledImage, numCoins] = bwlabel(bw);
figure;
imshow(img);
title(['Number of coins: ', num2str(numCoins)]);
disp(num2str(numCoins))
```