Part g)

i)

```
C=zeros(10);
for i=1:10
    for j=1:7
        Mss=Ms(i,j,:);
        Mss=Mss(:);
        index=find(Mss==max(Mss));
        C(i,index)=C(i,index)+1;
    end
end

disp(C)
```

```
     0     0     0     5     0     0     1     1     0     0
     0     1     0     5     1     0     0     0     0     0
     3     0     2     2     0     0     0     0     0     0
     0     4     0     0     2     0     0     0     0     1
     0     0     1     1     0     0     1     0     0     4
     0     1     0     6     0     0     0     0     0     0
     1     1     0     3     1     0     0     1     0     0
     0     1     1     3     0     0     1     0     0     1
     0     1     1     2     0     0     0     0     0     3
     0     1     0     1     3     0     0     2     0     0
```

ii)

```
disp(['Accuracy is equal to ' num2str(sum(diag(C)/sum(sum(C))))])
```

```
 Accuracy is equal to 0.042857
```

Accuracy of my algorithm is way worse than random guessing!

Sources of errors:

1- Segmentation method that was used was not optimal. there were many blobs in several images that couldn't be removed and those resulted in noisy patterns in skeleton images.

2- Minutia defenition was too idealistic. There were many cases of code=4 in case of bifurcations. Also in case of bifurcations there were more than one pixel with code=3 that resulted in errors in local feature matrix definition.

3- Other sources like unreal end point due to limits of image and different positions and distortions of fingerprints.

A total number of 28 images are mistaken for individual number four!