



HACETTEPE UNIVERSITY

Digital Image Processing – GMT342

Assignment-1

Name: Berk

Surname: Kivılcım

Number: 21632734

Results:

1-Median – mean – mode – standart deviation - minimum and maximum values of each bands:

```
Command Window
New to MATLAB? See resources for Getting Started.

>> clear
>> odev_son_hal
median bant1 1259
median bant2 1307
median bant3 1266
median bant4 2900
mean bant1 1289
mean bant2 1325
mean bant3 1304
mean bant4 2854
mode bant1 1194
mode bant2 1294
```

```
Command Window
New to MATLAB? See resources for Getting Started.

mode bant1 1194
mode bant2 1294
mode bant3 511
mode bant4 2878
min value bant1 813
min value bant2 681
min value bant3 420
min value bant4 256
max value bant1 8836
max value bant2 11333
max value bant3 13191
max value bant4 14821
```

```
Command Window
New to MATLAB? See resources for Getting Started.

min value bant4 256
max value bant1 8836
max value bant2 11333
max value bant3 13191
max value bant4 14821
standart deviation of bant1 227
standart deviation of bant2 285
standart deviation of bant3 481
standart deviation of bant1 822
Covariance matrix of bant1
glcms =
```

2- Covariance Matrixes and Correlation Rates of Bands to Each Other:

Bands Covariance Matrixes to Each Other:

(cov12 means covariances of band 1 and band 2)

```
cov12 =
1.0e+04 *
    5.1353    6.2857
    6.2857    8.1245

cov13 =
1.0e+05 *
    0.5135    1.0128
    1.0128    2.3173

cov14 =
1.0e+05 *
    0.5135    0.2991
    0.2991    6.7624

cov23 =
1.0e+05 *
    0.8124    1.2980
    1.2980    2.3173

cov24 =
1.0e+05 *
    0.8124    0.5922
    0.5922    6.7624

cov34 =
1.0e+05 *
    2.3173    0.6416
    0.6416    6.7624
```

Bands Correlation Coefficients Rates to Each Other:

```
bant 1 and bant 2 correlation is
cor12 =
    0.9731

bant 1 and bant 3 correlation is
cor13 =
    0.9285

bant 2 and bant 4 correlation is
cor24 =
    0.2527

bant 3 and bant 4 correlation is
cor34 =
    0.1621

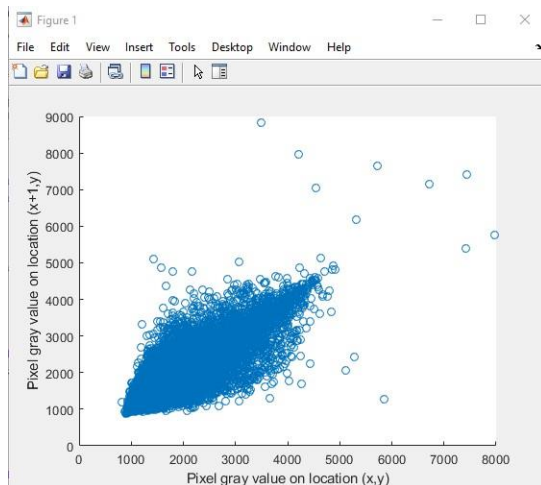
bant 1 and bant 4 correlation is
cor14 =
    0.1605

bant 2 and bant 3 correlation is
cor23 =
    0.9460
```

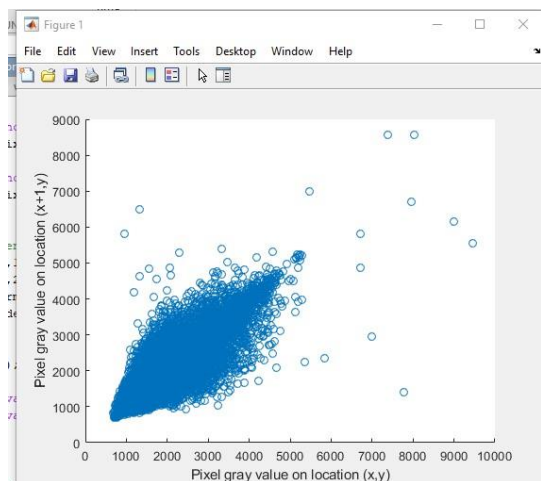
Additional study:

Correlation Histograms of pixel's gray value to nearest pixel's gray value:

Band1:



Band2:



Band3:

