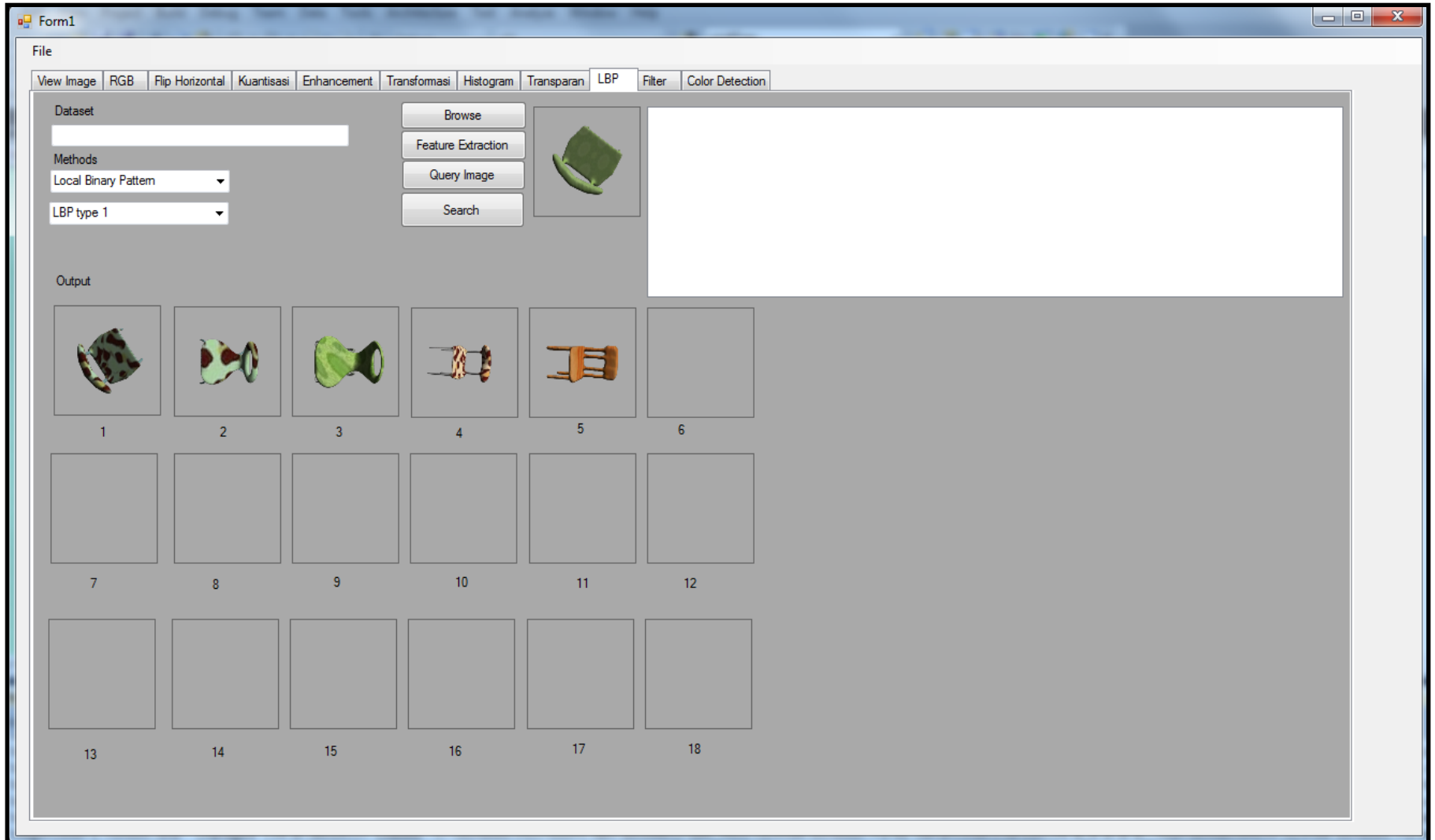


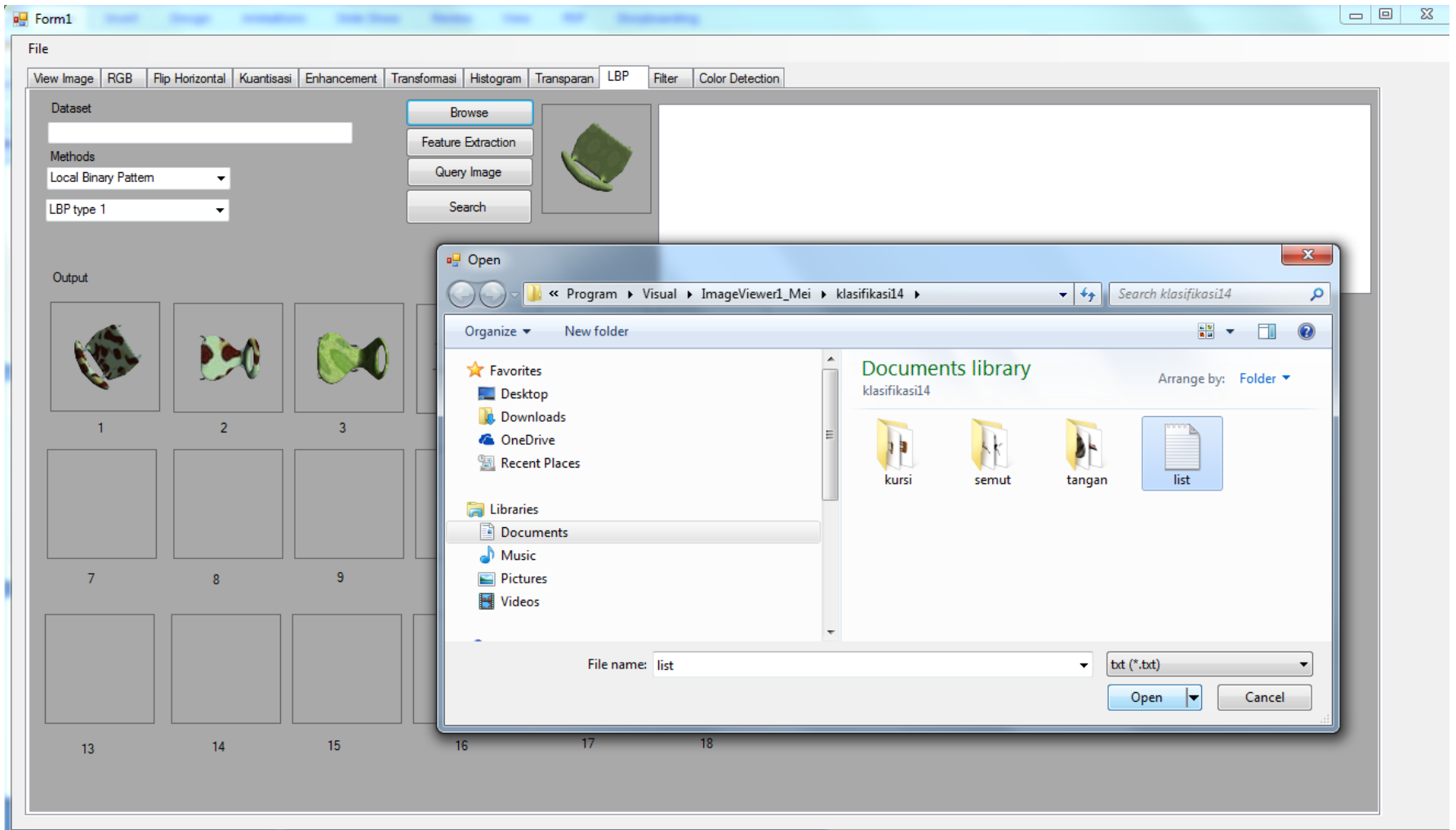
Praktikum Image (Image Retrieval Project)

Juni 2016

Retrieval



Retrieval



list.txt

- semut/11-1.png
- semut/16-1.png
- semut/30-1.png
- semut/69-1.png
- semut/101-1.png
- semut/105-1.png
- tangan/14-1.png
- tangan/41-1.png
- tangan/47-1.png
- tangan/80-1.png
- tangan/98-1.png
- tangan/111-1.png
- kursi/38-1.png
- kursi/58-1.png
- kursi/81-1.png
- kursi/100-1.png
- kursi/157-1.png
- kursi/159-1.png

Read file list.txt

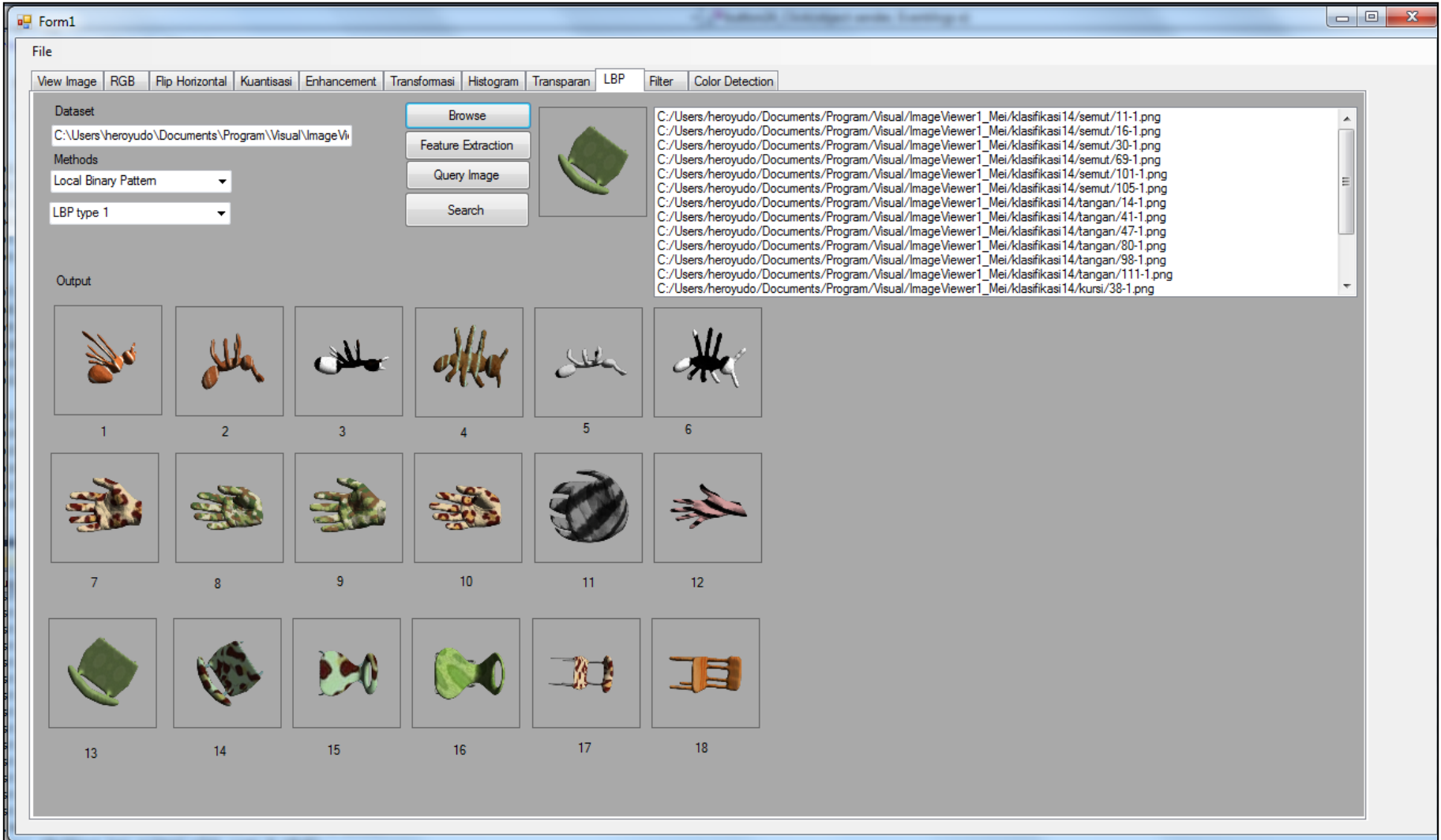
```
public const int TYPE_LBP = 3;
public const int DIMENSI = 36;
public const int NUM_FILE = 3;

public int NUM_PATH_TINGGI = 1;
public int NUM_PATH_LEBAR = 1;
public string[] gambar = new string[NUM_FILE];
public string[] file = new string[NUM_FILE];

public string PATH = "C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/";
public string PATH1 = "C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/listFeatures.txt";
public string PATH2 = "C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/";
public string INPUT = "C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/list_test.txt";
public string OUTPUT = "C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/matrix.txt";
```

```
//Membaca list file png
string[] lines = System.IO.File.ReadAllLines(INPUT);
int p = 0;
foreach (string line in lines)
{
    gambar[p] = PATH2 + line;
    listBox1.Items.Add(gambar[p]);
    p++;
}
```

Original



Gray

Form1

File


View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparen LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi

Methods
Local Binary Pattern

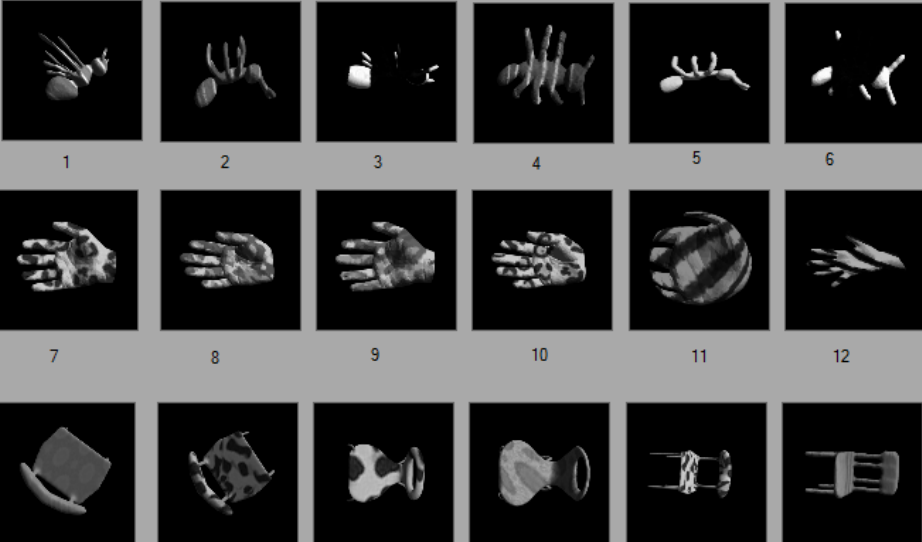
LBP type 1

Browse
Feature Extraction
Query Image
Search



C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/11-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/16-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/30-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/69-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/101-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/105-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/14-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/41-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/47-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/80-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/98-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/111-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/kursi/38-1.png

Output



1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18

Gray

Form1

File

View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi

Methods
Local Binary Pattern

LBP type 1

Browse
Feature Extraction
Query Image
Search

C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/11-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/16-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/30-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/69-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/101-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/105-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/14-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/41-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/47-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/80-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/98-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/111-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/kursi/38-1.png

Output

1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

Gray

Form1

File


View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparen LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\Image Vi

Methods
Local Binary Pattern

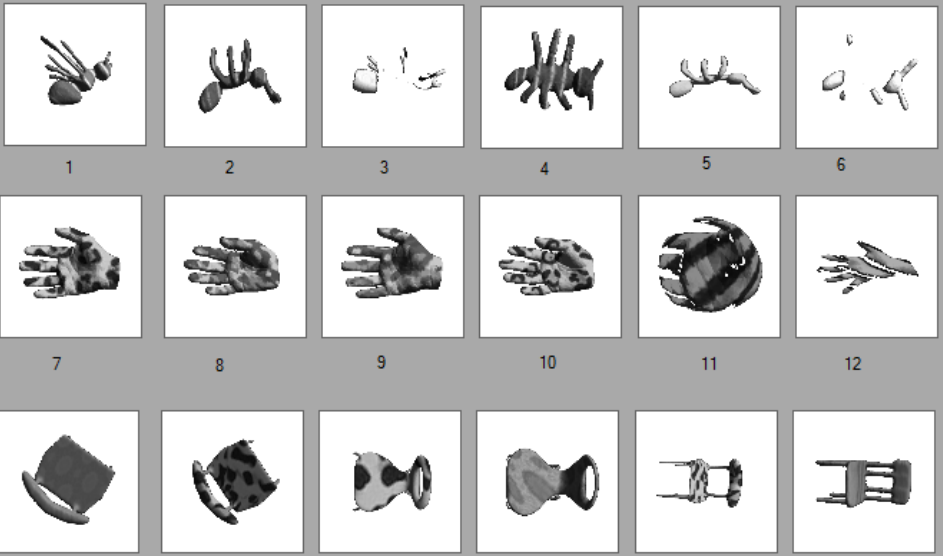
LBP type 1

Browse
Feature Extraction
Query Image
Search



C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/11-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/16-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/30-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/69-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/101-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/105-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/14-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/41-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/47-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/80-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/98-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/111-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/kursi/38-1.png

Output



1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

Gray

Form1


File

View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparen LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi


Methods
Local Binary Pattern
LBP type 1

Browse
Feature Extraction
Query Image
Search



C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/semut/11-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/semut/16-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/semut/30-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/semut/69-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/semut/101-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/semut/105-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/tangan/14-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/tangan/41-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/tangan/47-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/tangan/80-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/tangan/98-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/tangan/111-1.png
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi 14/kursi/38-1.png

Output



1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18

Save features

The screenshot displays a software application window titled "Form1" with a menu bar including "File", "View Image", "RGB", "Flip Horizontal", "Kuantisasi", "Enhancement", "Transformasi", "Histogram", "Transparan", "LBP", "Filter", and "Color Detection". The "LBP" menu is active, showing options for "Dataset", "Methods", and "LBP type 1". The "Dataset" field is set to "C:\Users\heroyudo\Documents\Program\Visual\ImageVi". The "Methods" dropdown is set to "Local Binary Pattern". The "LBP type 1" dropdown is also set to "1". A "Feature Extraction" button is highlighted in blue. A small image of a green leaf is visible in the center. The "Output" section contains a grid of 18 image thumbnails, with the first one showing a binary image of the leaf. A text area on the right contains the file path "C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/1.txt". A Notepad window titled "1 - Notepad" is open in the foreground, displaying a list of numbers: 993, 153, 0, 1099, 0, 18, 0, 174, 0, 71, 0, 27, 0, 49, 0, 720, 0, 0, 0, 0, 5, 0, 0, 0, 10, 0, 10, 0, 22, 0, 3, 0, 0, 318, 0, 0, 0, 0.

```
File Edit Format View Help
993
153
0
1099
0
18
0
174
0
71
0
27
0
49
0
720
0
0
0
0
5
0
0
0
10
0
10
0
22
0
3
0
0
318
0
0
0
0
```

Save features

```
// Ekstraksion feature buat LBP
binLBP1a = action.getLBP(gambarku[i], binLBP1a, i, TYPE_LBP, NUM_PATH_LEBAR, NUM_PATH_TINGGI);
Bitmap outputBitmap1 = new Bitmap(gambarku[i].Width, gambarku[i].Height);
outputBitmap1 = action.getOutputBitmap();

//save ke file txt
string namaFile = PATH + "" + (i + 1).ToString() + ".txt";
action.doSaveFile(binLBP1a, i, namaFile, DIMENSI, NUM_PATH_TINGGI, NUM_PATH_LEBAR);
listBox1.Items.Add((i + 1).ToString() + ".txt");

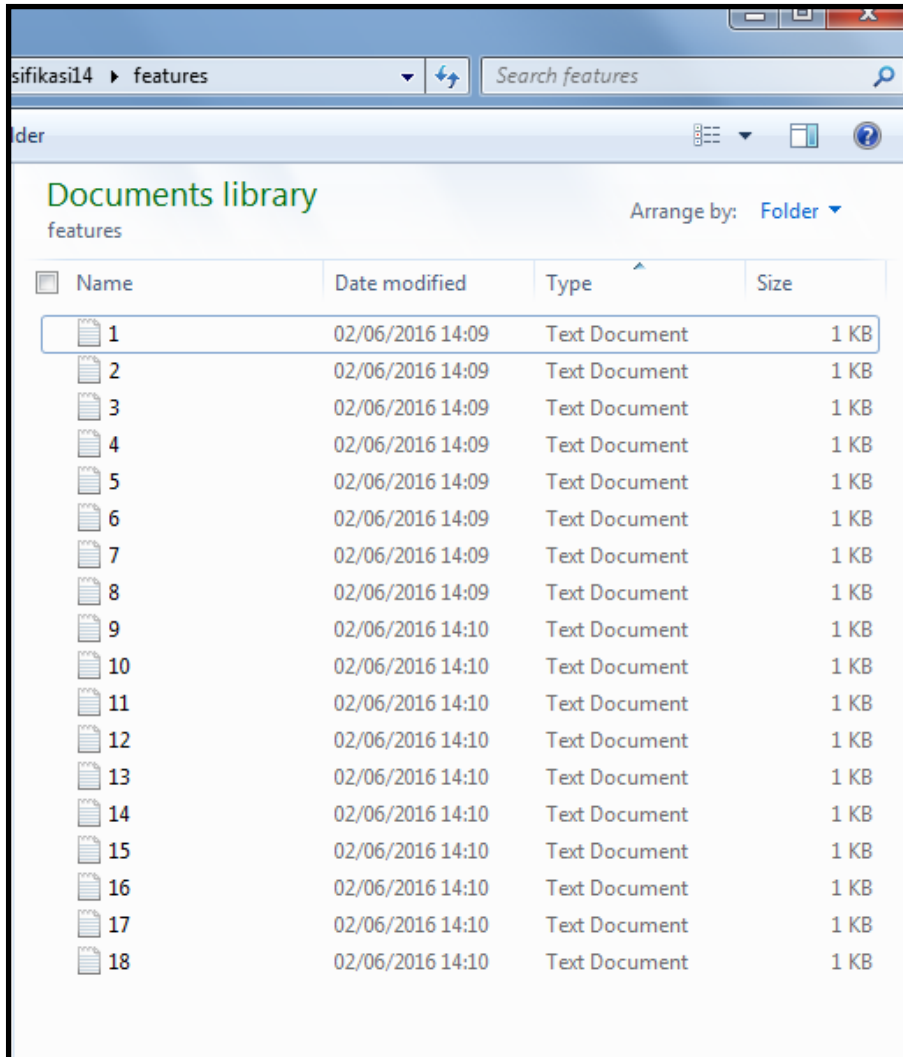
// Ekstraksion feature buat LTP
```

```
public void doSaveFile(int[, , ] binLBP1a, int q, string namaFiletxt, int DIMENSI, int NUM_PATH_TINGGI, int NUM_PATH_LEBAR)
{
    Console.WriteLine("save File di " + namaFiletxt);
    string[] lines = new string[NUM_PATH_TINGGI * NUM_PATH_LEBAR * DIMENSI];
    int number = 0;
    for (int y = 0; y < NUM_PATH_TINGGI; y++)
    {
        for (int x = 0; x < NUM_PATH_LEBAR; x++)
        {
            for (int i = 0; i < DIMENSI; i++)
            {
                number = ((y * NUM_PATH_TINGGI) + x) * DIMENSI + i;
                lines[number] = binLBP1a[q, y, x, i].ToString();
            }
        }
    }
    System.IO.File.WriteAllLines(namaFiletxt, lines);
}
```

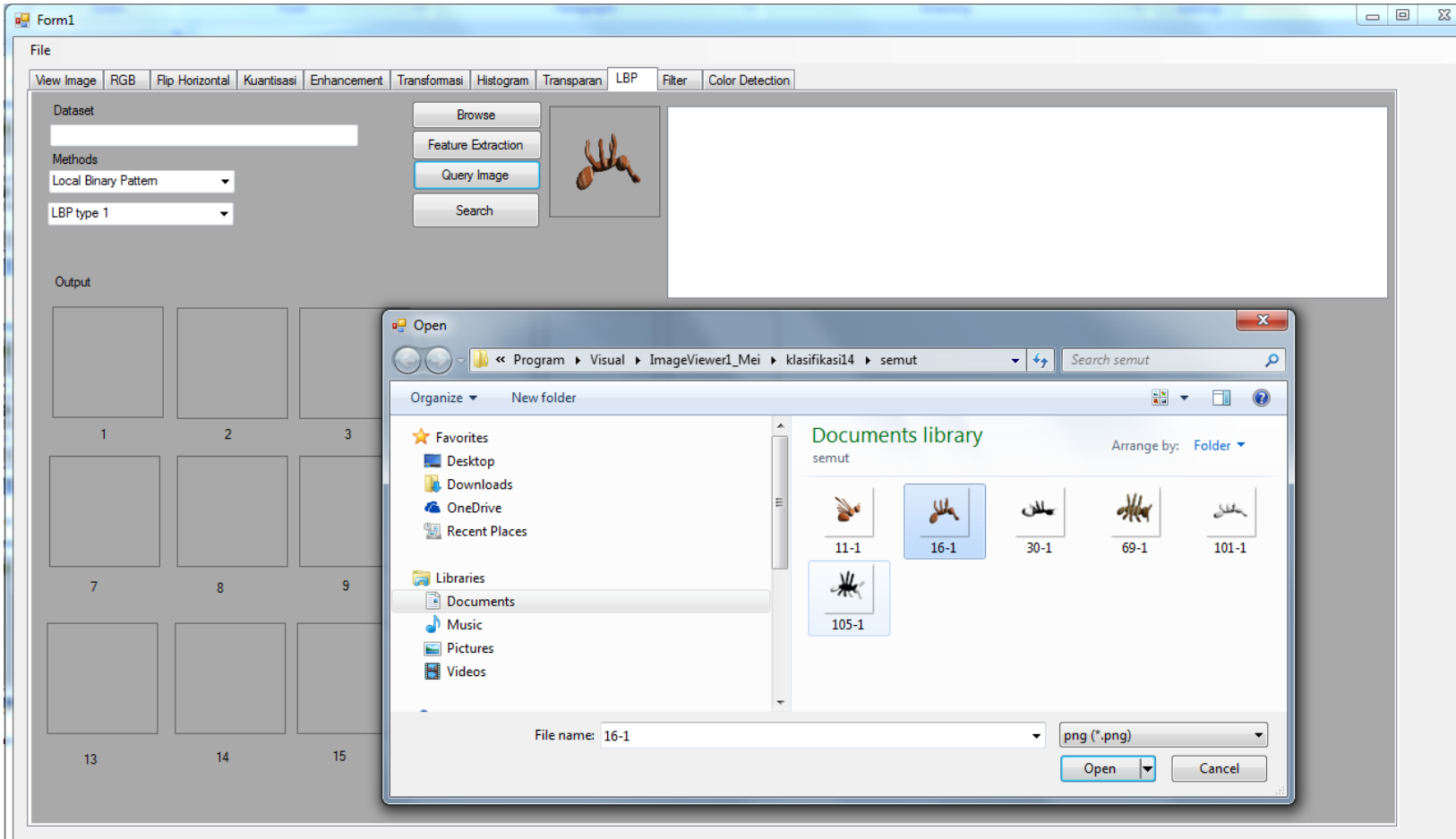
Save features

```
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/1.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/2.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/3.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/4.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/5.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/6.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/7.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/8.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/9.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/10.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/11.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/12.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/13.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/14.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/15.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/16.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/17.txt
LBP Finished
save File di C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/18.txt
set LBP
|
```

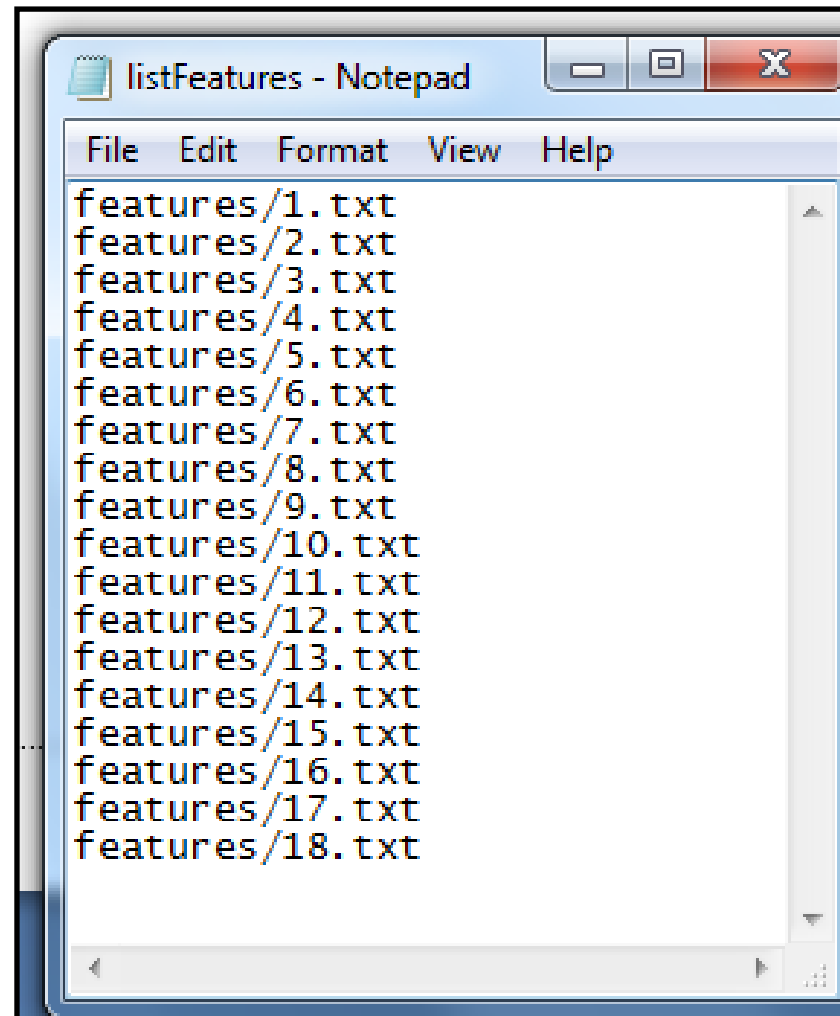
Save features



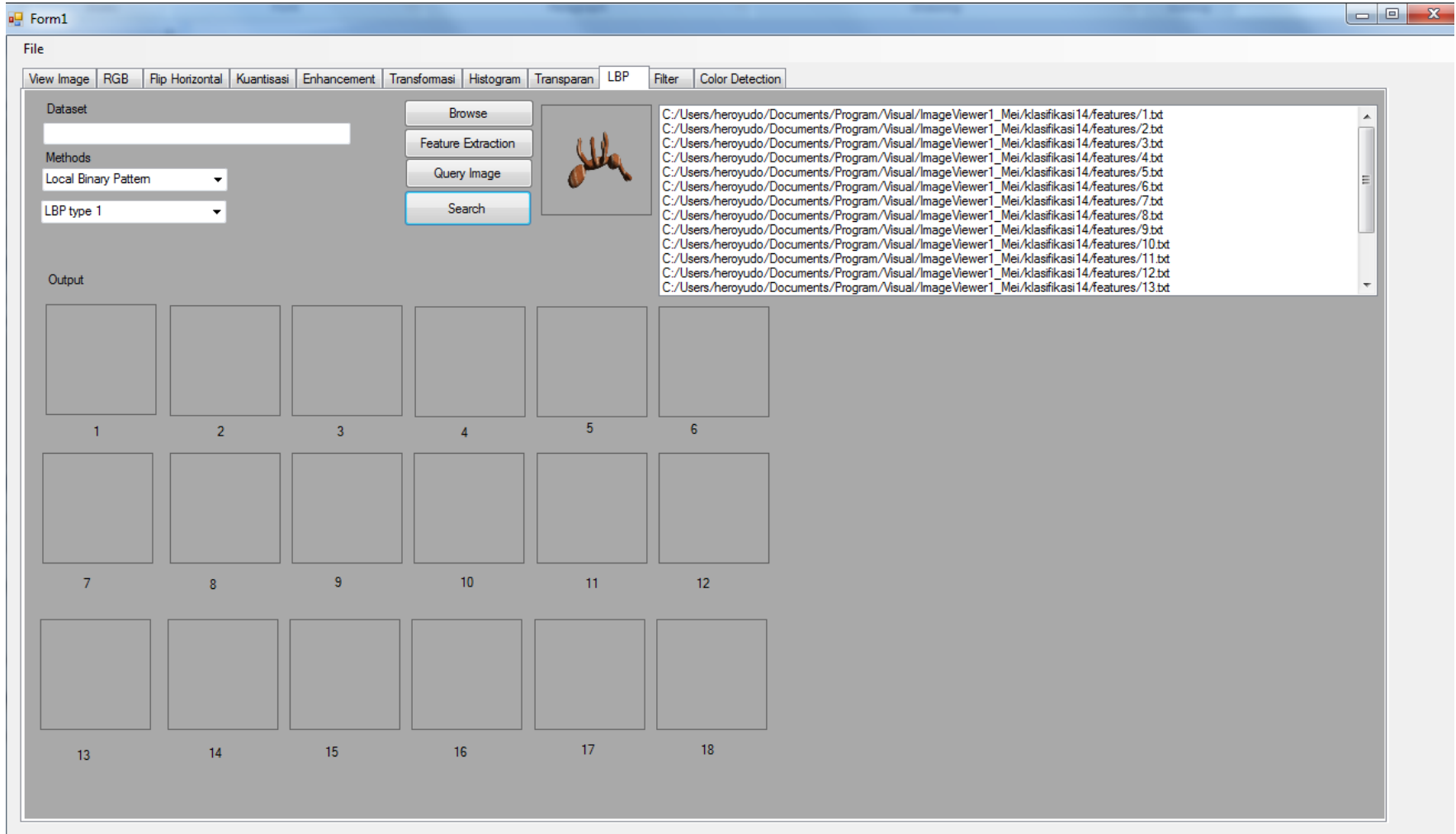
Query Image

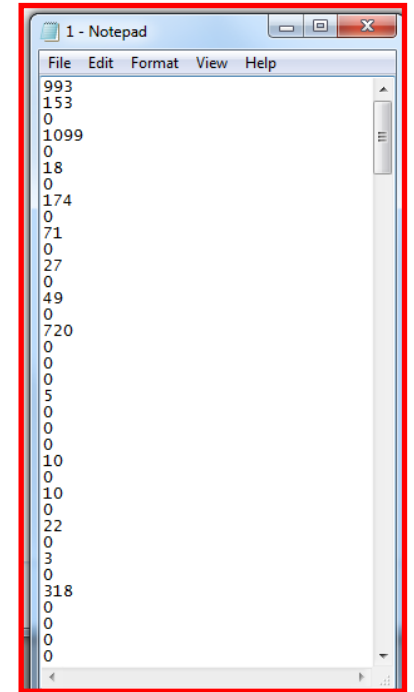
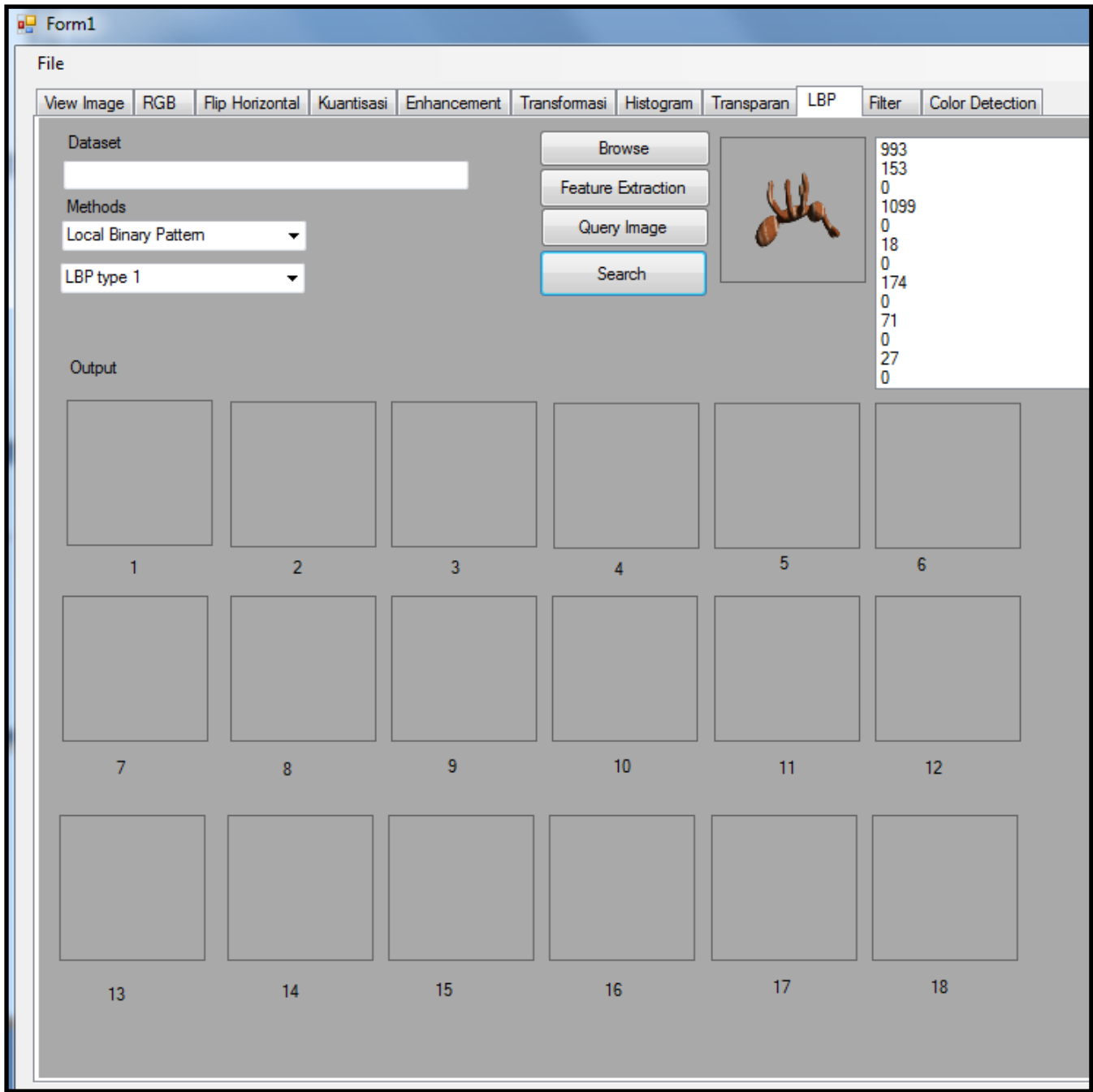


List features



Query Image





Form1

File
View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi
Methods
Local Binary Pattern
LBP type 1

Browse
Feature Extraction
Query Image
Search



- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/11-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/16-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/30-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/69-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/101-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/semut/105-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/14-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/41-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/47-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/80-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/98-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/tangan/111-1.png
- C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/kursi/38-1.png

Output



File-ke	Jarak
*	

button52

Testing

Form1

File


View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\Image Vi

Methods
Local Binary Pattern

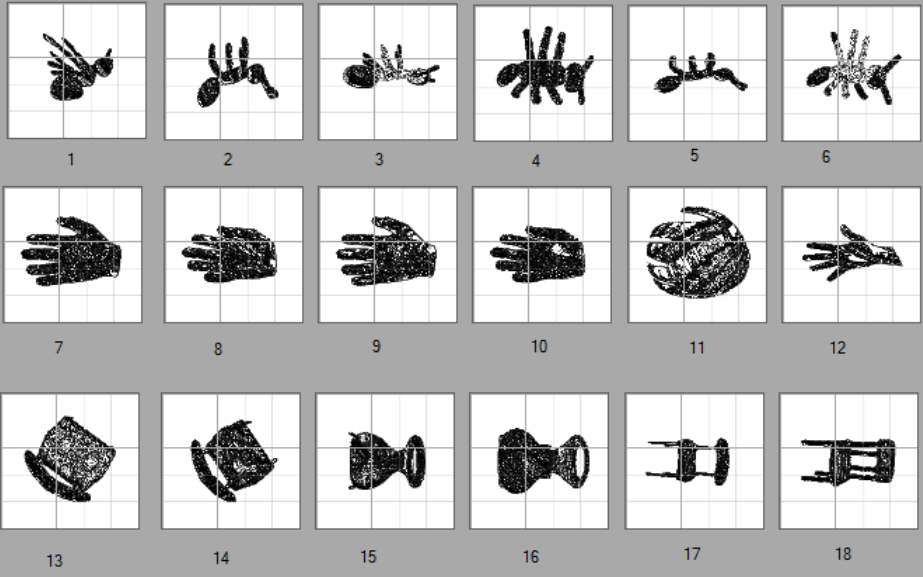
LBP type 1

Browse
Feature Extraction
Query Image
Search



C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program
C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program

Output



1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

File-ke	Jarak
1	0
2	23,765625
3	47,53125
4	71,296875
5	95,0625
6	118,828125
7	142,59375
8	166,359375
9	190,125
10	213,890625
11	237,65625
12	261,421875
13	285,1875
14	308,953125
15	332,71875
16	356,484375
17	380,25
18	404,015625

button52

Testing

Form1


File

View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi


Methods
Local Binary Pattern
LBP type 1

Browse
Feature Extraction
Query Image
Search



C:/Users/heroyudo/Documents/Program/Visual/ImageViewer1_Mei/klasifikasi14/features/C:/Users/heroyudo/Documents/Program/Vis
0 = 0

Output



1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

	File-ke	Jarak
▶	1	0
*		

test

Testing

Form1

File

View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi

Methods
Local Binary Pattern

LBP type 1

Browse
Feature Extraction
Query Image
Search

3374
485
0
4441
0
38
0
592
0
248
0
66
0

Output

1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

1 - Notepad

File Edit Format View Help

```
3374
485
0
4441
0
38
0
592
0
248
0
66
0
0
121
0
2743
0
0
0
0
25
0
0
0
0
27
0
0
54
0
68
0
12
0
1095
0
0
0
0
0
0
0
9
0
50
0
0
```

test

Testing

Form1

File


View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi

Methods
Local Binary Patten


LBP type 1

Browse
Feature Extraction
Query Image
Search



3304
574
0
7389
0
27
0
1282
0
228
0
84
0

Output



1 2 3 4 5 6
7 8 9 10 11 12
13 14 15 16 17 18

File-ke	Jarak
1	107,828125
2	115,625
3	141,4921875
4	29,7734375
5	155,53125
6	110,375
7	46,6875
8	27,609375
9	31,8828125
10	28,6484375
11	122,1171875
12	110,859375
13	38,21875
14	0
15	39,328125
16	19,1484375
17	132,7109375
18	75,3359375

test

Testing

Form1

File


View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi

Methods
Local Binary Pattern


LBP type 1

Browse
Feature Extraction
Query Image
Search



```
29
0
11
0
658
0
0
0
0
0
0
0
6
0
24
```

Output



File-ke	Jarak
1	49,5078125
2	43,5390625
3	17,9375
4	135,109375
5	0
6	48,875
7	197,25
8	148,3203125
9	181,6328125
10	157,546875
11	275,2421875
12	47,9609375
13	168,6796875
14	155,53125
15	118,375
16	168,0390625
17	25,3515625
18	83,609375

test

Testing

Form1

File

View Image RGB Flip Horizontal Kuantisasi Enhancement Transformasi Histogram Transparan LBP Filter Color Detection

Dataset
C:\Users\heroyudo\Documents\Program\Visual\ImageVi

Methods
Local Binary Pattern


LBP type 1

Browse

Feature Extraction


Query Image

Search



5735
721
0
7863
0
36
0
1582
0
279
0
117
0

Output



1 2 3 4 5 6

7 8 9 10 11 12

13 14 15 16 17 18

File-ke	Jarak
1	112,390625
2	118,5078125
3	143,75
4	43,7734375
5	157,546875
6	117,9921875
7	44,2421875
8	13,65625
9	29,8671875
10	0
11	130,3671875
12	110,1171875
13	41,8671875
14	28,6484375
15	55,0703125
16	36,0234375
17	133,875
18	74,859375

test

Compare Features

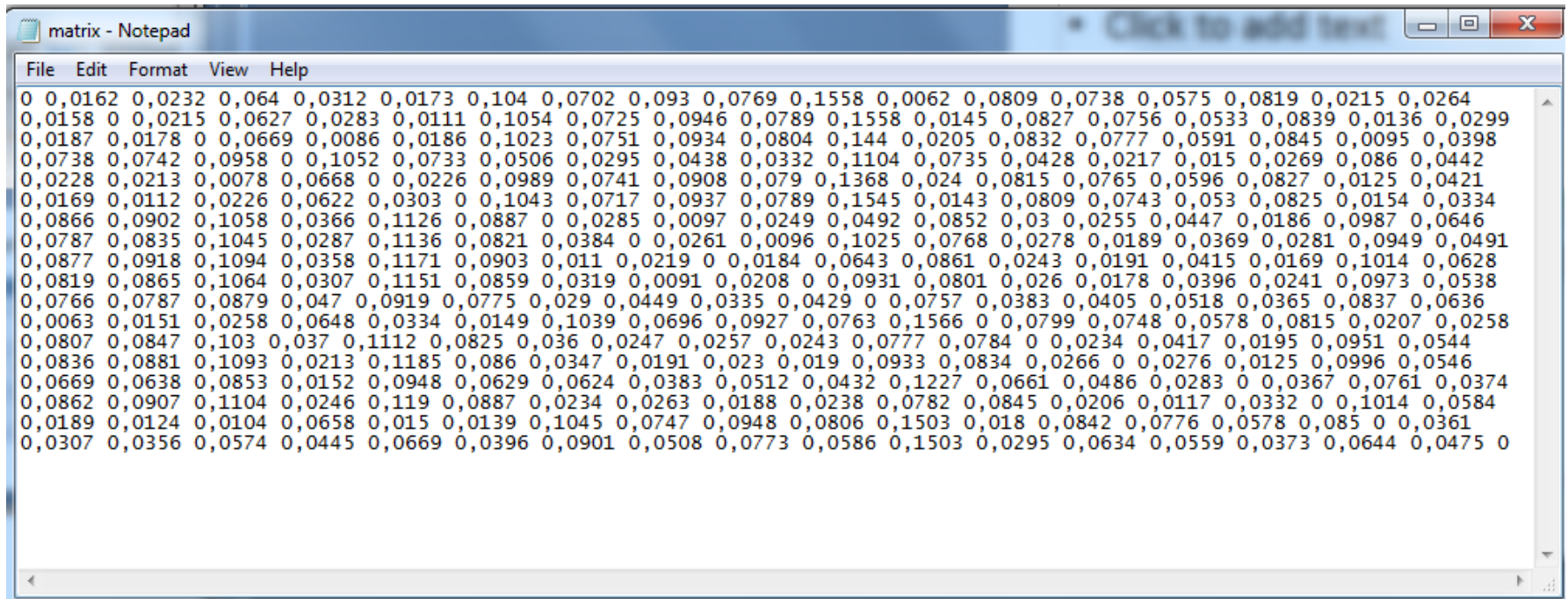
```
public double[] doCompareFeatures(int[] binLBP1_query, int[,] binLBP1_features, int i, int max)
{
    double[] value = new double[2];
    value[0]= System.Convert.ToDouble(i);
    value[1] = 0.0;
    double temp=0.0;
    //max = 5;
    for (int j=0 ; j <max; j++)
    {
        temp += Math.Abs(binLBP1_query[j] - binLBP1_features[i, j]);
        Console.WriteLine(j.ToString()+": " + binLBP1_query[j].ToString() + "-" + binLBP1_features[i, j].ToString() + "=" + temp.ToString());
    }
    value[1] = (double) temp/max;

    Console.WriteLine(temp.ToString() + ":" + max.ToString() + "=" +value[1].ToString());
    return value;
}
```

Dissimilarity Matrix

0							
	0						
		0					
			0				
				0			
					0		
						0	
							0

Dissimilarity Matrix



```
matrix - Notepad
File Edit Format View Help
0 0,0162 0,0232 0,064 0,0312 0,0173 0,104 0,0702 0,093 0,0769 0,1558 0,0062 0,0809 0,0738 0,0575 0,0819 0,0215 0,0264
0,0158 0 0,0215 0,0627 0,0283 0,0111 0,1054 0,0725 0,0946 0,0789 0,1558 0,0145 0,0827 0,0756 0,0533 0,0839 0,0136 0,0299
0,0187 0,0178 0 0,0669 0,0086 0,0186 0,1023 0,0751 0,0934 0,0804 0,144 0,0205 0,0832 0,0777 0,0591 0,0845 0,0095 0,0398
0,0738 0,0742 0,0958 0 0,1052 0,0733 0,0506 0,0295 0,0438 0,0332 0,1104 0,0735 0,0428 0,0217 0,015 0,0269 0,086 0,0442
0,0228 0,0213 0,0078 0,0668 0 0,0226 0,0989 0,0741 0,0908 0,079 0,1368 0,024 0,0815 0,0765 0,0596 0,0827 0,0125 0,0421
0,0169 0,0112 0,0226 0,0622 0,0303 0 0,1043 0,0717 0,0937 0,0789 0,1545 0,0143 0,0809 0,0743 0,053 0,0825 0,0154 0,0334
0,0866 0,0902 0,1058 0,0366 0,1126 0,0887 0 0,0285 0,0097 0,0249 0,0492 0,0852 0,03 0,0255 0,0447 0,0186 0,0987 0,0646
0,0787 0,0835 0,1045 0,0287 0,1136 0,0821 0,0384 0 0,0261 0,0096 0,1025 0,0768 0,0278 0,0189 0,0369 0,0281 0,0949 0,0491
0,0877 0,0918 0,1094 0,0358 0,1171 0,0903 0,011 0,0219 0 0,0184 0,0643 0,0861 0,0243 0,0191 0,0415 0,0169 0,1014 0,0628
0,0819 0,0865 0,1064 0,0307 0,1151 0,0859 0,0319 0,0091 0,0208 0 0,0931 0,0801 0,026 0,0178 0,0396 0,0241 0,0973 0,0538
0,0766 0,0787 0,0879 0,047 0,0919 0,0775 0,029 0,0449 0,0335 0,0429 0 0,0757 0,0383 0,0405 0,0518 0,0365 0,0837 0,0636
0,0063 0,0151 0,0258 0,0648 0,0334 0,0149 0,1039 0,0696 0,0927 0,0763 0,1566 0 0,0799 0,0748 0,0578 0,0815 0,0207 0,0258
0,0807 0,0847 0,103 0,037 0,1112 0,0825 0,036 0,0247 0,0257 0,0243 0,0777 0,0784 0 0,0234 0,0417 0,0195 0,0951 0,0544
0,0836 0,0881 0,1093 0,0213 0,1185 0,086 0,0347 0,0191 0,023 0,019 0,0933 0,0834 0,0266 0 0,0276 0,0125 0,0996 0,0546
0,0669 0,0638 0,0853 0,0152 0,0948 0,0629 0,0624 0,0383 0,0512 0,0432 0,1227 0,0661 0,0486 0,0283 0 0,0367 0,0761 0,0374
0,0862 0,0907 0,1104 0,0246 0,119 0,0887 0,0234 0,0263 0,0188 0,0238 0,0782 0,0845 0,0206 0,0117 0,0332 0 0,1014 0,0584
0,0189 0,0124 0,0104 0,0658 0,015 0,0139 0,1045 0,0747 0,0948 0,0806 0,1503 0,018 0,0842 0,0776 0,0578 0,085 0 0,0361
0,0307 0,0356 0,0574 0,0445 0,0669 0,0396 0,0901 0,0508 0,0773 0,0586 0,1503 0,0295 0,0634 0,0559 0,0373 0,0644 0,0475 0
```

Create Dissimilarity Matrix

```
private void button53_Click(object sender, EventArgs e)
{
    int maxDIMENSION = NUM_PATH_LEBAR * NUM_PATH_TINGGI * DIMENSI;
    Console.WriteLine("create DM = "+maxDIMENSION.ToString()+" dimensi");
    int[] bin1 = new int[maxDIMENSION];
    int[] bin2 = new int[maxDIMENSION];
    double[,] matrix=new double[NUM_FILE, NUM_FILE];
    Class1 action = new Class1();

    //membaca file dataset yang berisi file features
    int row = 0;
    dataGridView1.Rows.Clear();
    string[] lines = System.IO.File.ReadAllLines(PATH1);
    int i = 0;
    foreach (string line in lines)
    {
        file[i] = PATH2 + line;
        //Console.WriteLine(i.ToString()+"="+file[i]);
        i++;
    }

    //bin1 = action.getBIN(file[0], bin1, maxDIMENSION);
    for (i = 0; i < NUM_FILE - 1; i++)
    {
        bin1 = action.getBIN(file[i], bin1, maxDIMENSION);
        for (int j = i + 1; j < NUM_FILE; j++)
        {
            bin2 = action.getBIN(file[j], bin2, maxDIMENSION);
            double value = action.doCompareFeatures2(bin1,bin2, maxDIMENSION);
            //string test1=String.Format("{0:0.00}", value);
            //value = Convert.ToDouble(test1);
            matrix[i,j] = matrix[j,i]=value;
        }
    }

    //save to file txt|
    matrix = action.doNormalisasi(matrix, NUM_FILE);
    action.doSaveFile2(matrix, OUTPUT, NUM_FILE);
    Console.WriteLine("DM file is generated");
}
}
```

Normalisasi

```
public double[,] doNormalisasi(double[,] matrix, int numFile ){
    for (int i = 0; i < numFile; i++)
    {
        double temp = 0.0;
        for (int j = 0; j < numFile; j++)
        {
            temp += matrix[i, j];
        }

        for (int j = 0; j < numFile; j++)
        {
            matrix[i, j] = matrix[i, j] / temp;
            string test1 = String.Format("{0:0.00000}", matrix[i, j]);
            matrix[i, j] = Convert.ToDouble(test1);
        }
    }

    return matrix;
}
```

```
public void doSaveFile2(double[,] matrix, string namaFiletxt, int numFile)
{
    string[] lines = new string[numFile];
    for (int i = 0; i < numFile; i++)
    {
        for (int j = 0; j < numFile; j++)
        {
            lines[i] += matrix[i, j].ToString() + " ";
        }
    }
    System.IO.File.WriteAllLines(namaFiletxt, lines);
}
```