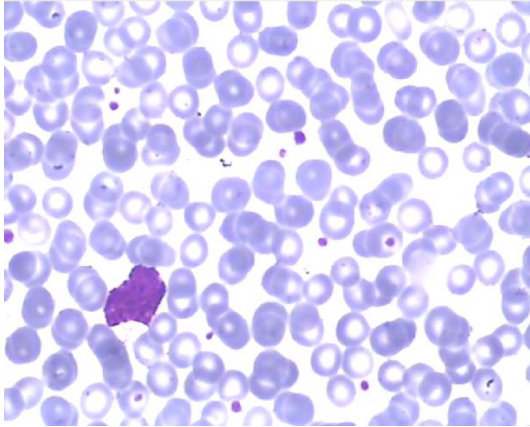# Digital Image Project

Lecturer: Dr. Radwa Fathallah

TA: Eng. Mahmoud El-Morshedy

Name: Mayar Gamal Ahmed Youssef
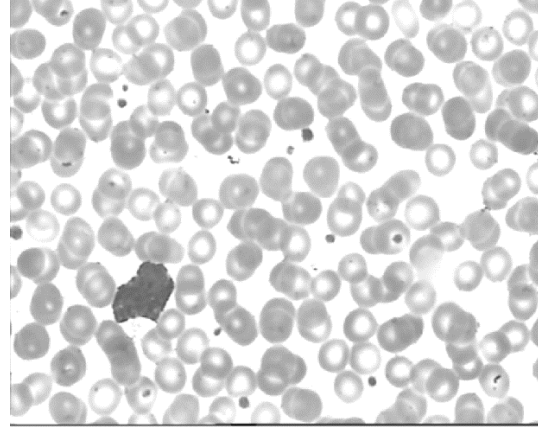
Registration No.: 16102269

Phase One
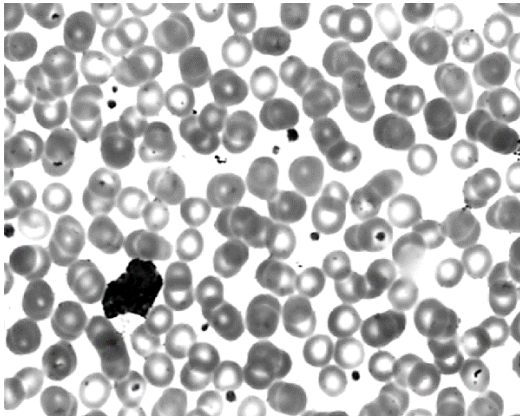
Baso Dataset


```
c_1=imread(sprintf('%d.bmp',2));
```



```
%geyay scale   1
im = rgb2gray(c_1);
```



```
%contrast enhancement    2
pout_imadjust = imadjust(im);
```



```
%guassian filter    3
Iblur1 = imgaussfilt(pout_imadjust,2);
```

```
%threshold filter    4
 w=Iblur1<50;
```

```
%oppening        5
se=strel('disk',7);
X=imopen(w,se);
```

```
%dilate    6
er=imdilate(X, se);
```

```
%clear borders  7
BWc1 = imclearborder(er,8);
```
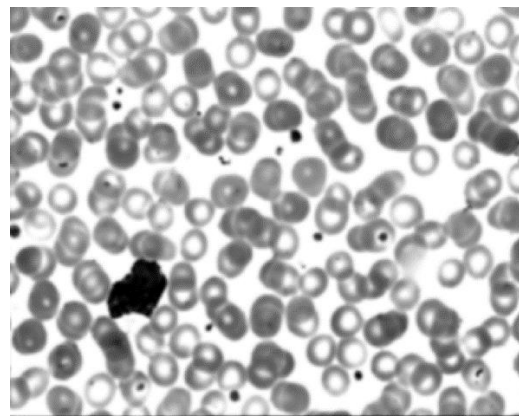
Eosi Dataset


```
c_1=imread(sprintf('%d.bmp',5));
```
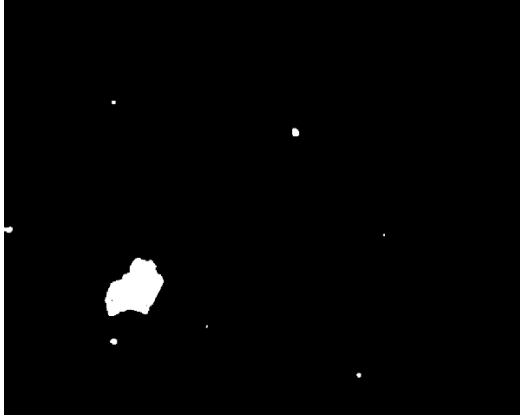


```
%geyay scale  1
im = rgb2gray(c_1);
```



```
%contrast enhancement   2
pout_imadjust = imadjust(im);
```



```
%guassian filter   3
Iblur1 = imgaussfilt(pout_imadjust,2);
```

```
%threshold filter    4
w=Iblur1<45;
```



```
%oppening        5
 se=strel('disk',4);
 X=imopen(w,se);
```



```
%CONN      6
CC = bwconncomp(X);
S = regionprops(CC, 'Area');
L = labelmatrix(CC);
BW2 = ismember(L, find([S.Area] >= 600));
```

Lymp Dataset


```
c_1=imread(sprintf('%d.bmp',22));
```



```
%geyay scale   1
im = rgb2gray(c_1);
```
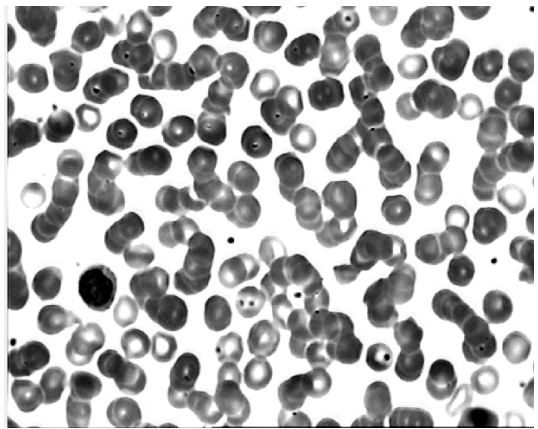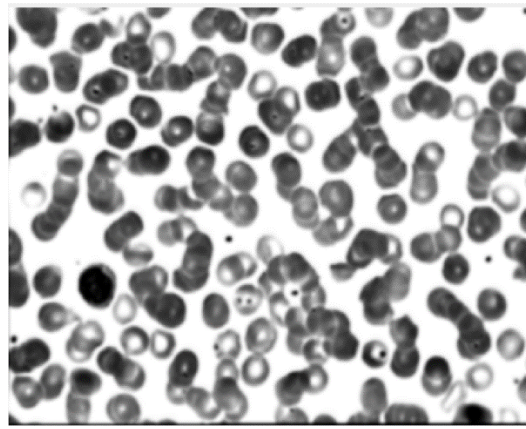


```
%contrast enhancement    2
pout_imadjust = imadjust(im);
```



```
%guassian filter    3
Iblur1 = imgaussfilt(pout_imadjust,2);
```

```
%threshold filter    4
w=Iblur1<50;
```
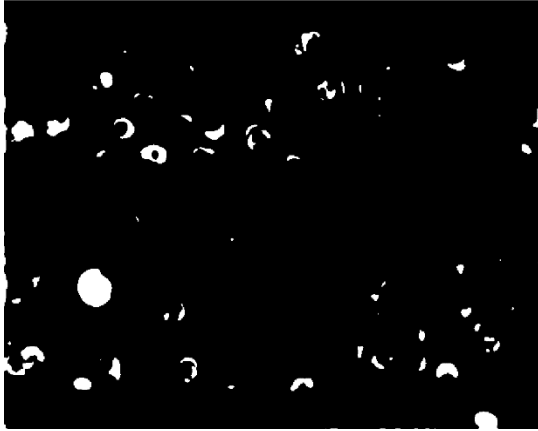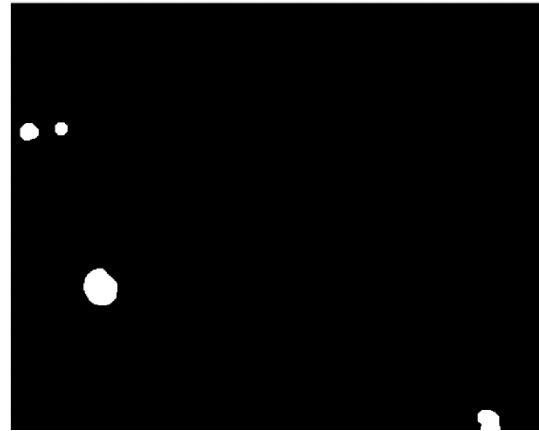


```
%oppening    5
se=strel('disk',9);
X=imopen(w,se);
```
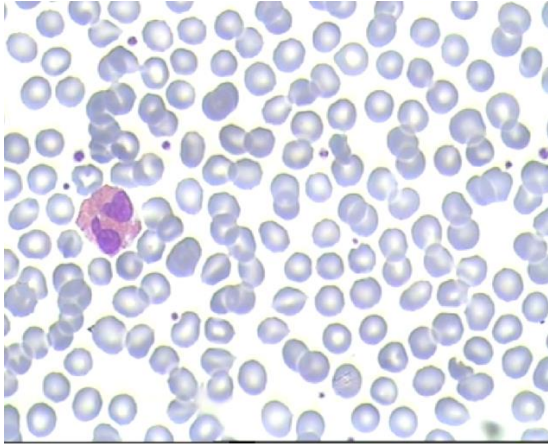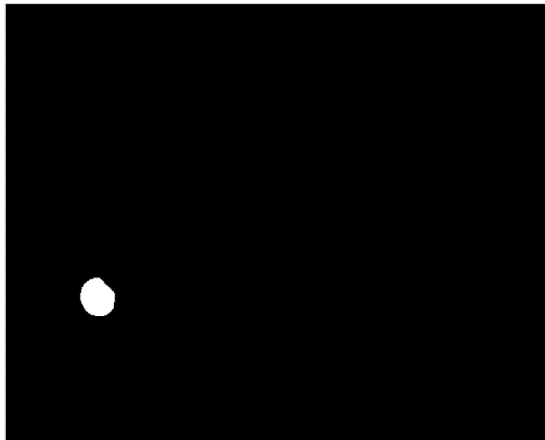


```
%conn    6
CC = bwconncomp(X);
S = regionprops(CC, 'Area');
L = labelmatrix(CC);
BW2 = ismember(L, find([S.Area] >= 1000));
```
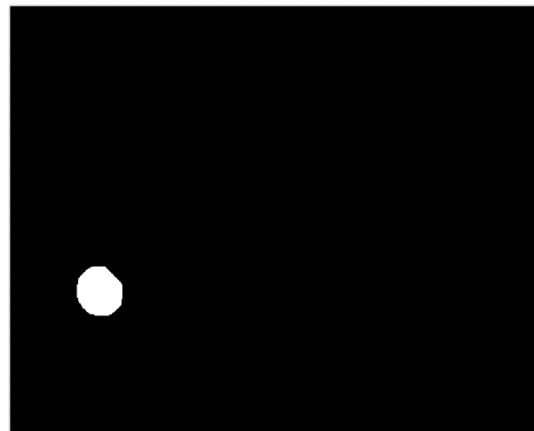


```
%dilate        7
er=imdilate(BW2, se);
```

Mono Dataset
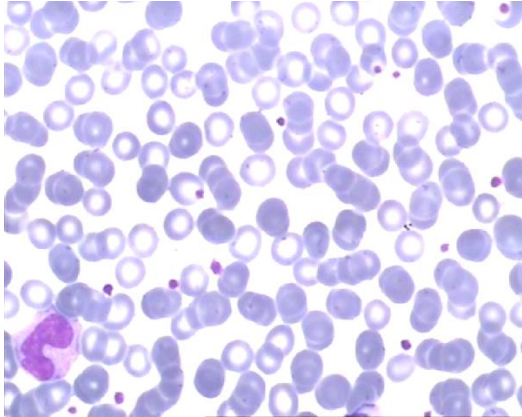

```
c_1=imread(sprintf('%d.bmp',38));
```
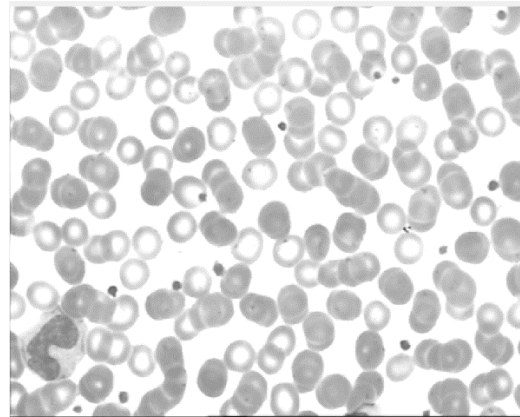


```
%geyay scale   1
im = rgb2gray(c_1);
```
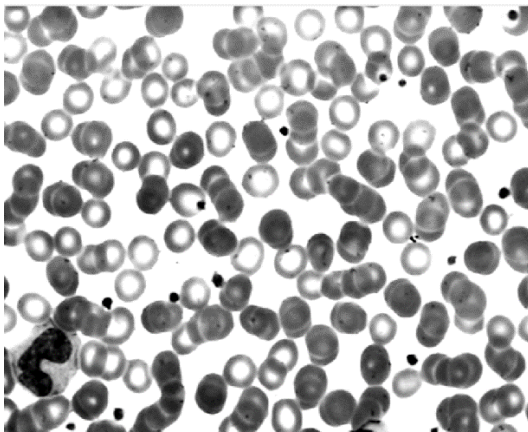


```
%contrast enhancement    2
pout_imadjust = imadjust(im);
```



```
%guassian filter    3
Iblur1 = imgaussfilt(pout_imadjust,2);
```
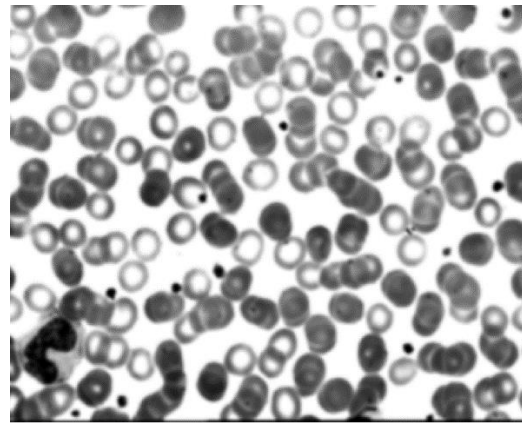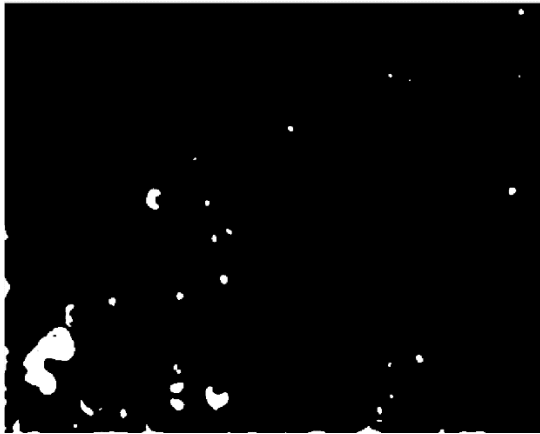
```matlab
%threshold filter    4
w=Iblur1<50;
X=imopen(w,se);
```
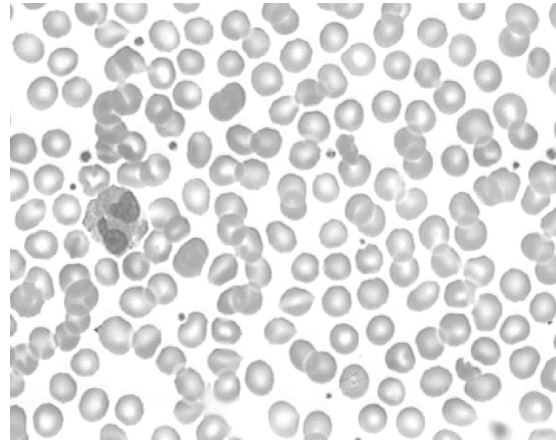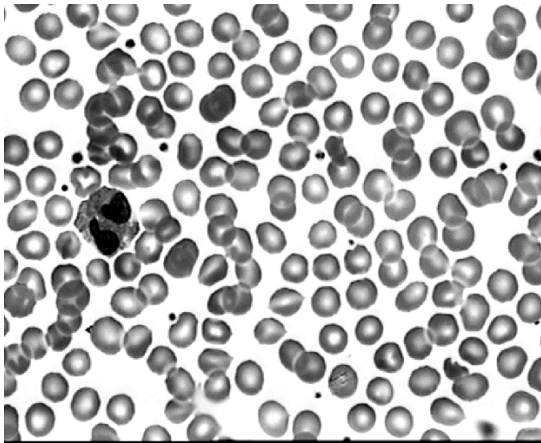
```matlab
%oppening
se=strel('disk',2);
```



```matlab
%conn
CC = bwconncomp(X);
S = regionprops(CC, 'Area');
L = labelmatrix(CC);
BW2 = ismember(L, find([S.Area] >= 1600));
```
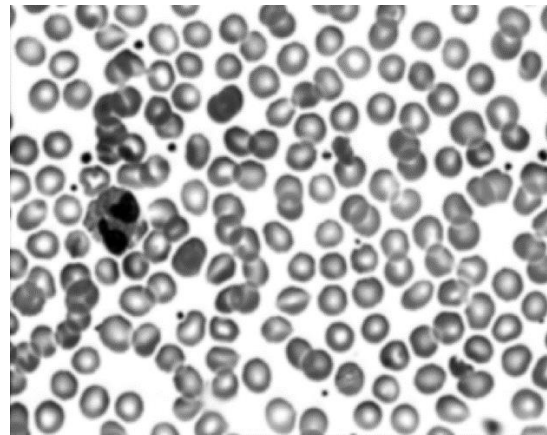
Neut Dataset


```
c_1=imread(sprintf('%d.bmp',1));
```
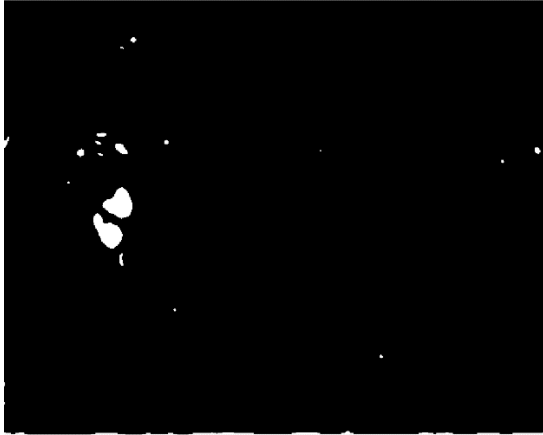


```
%geyay scale  1
im = rgb2gray(c_1);
```



```
%contrast enhancement   2
pout_imadjust = imadjust(im);
```
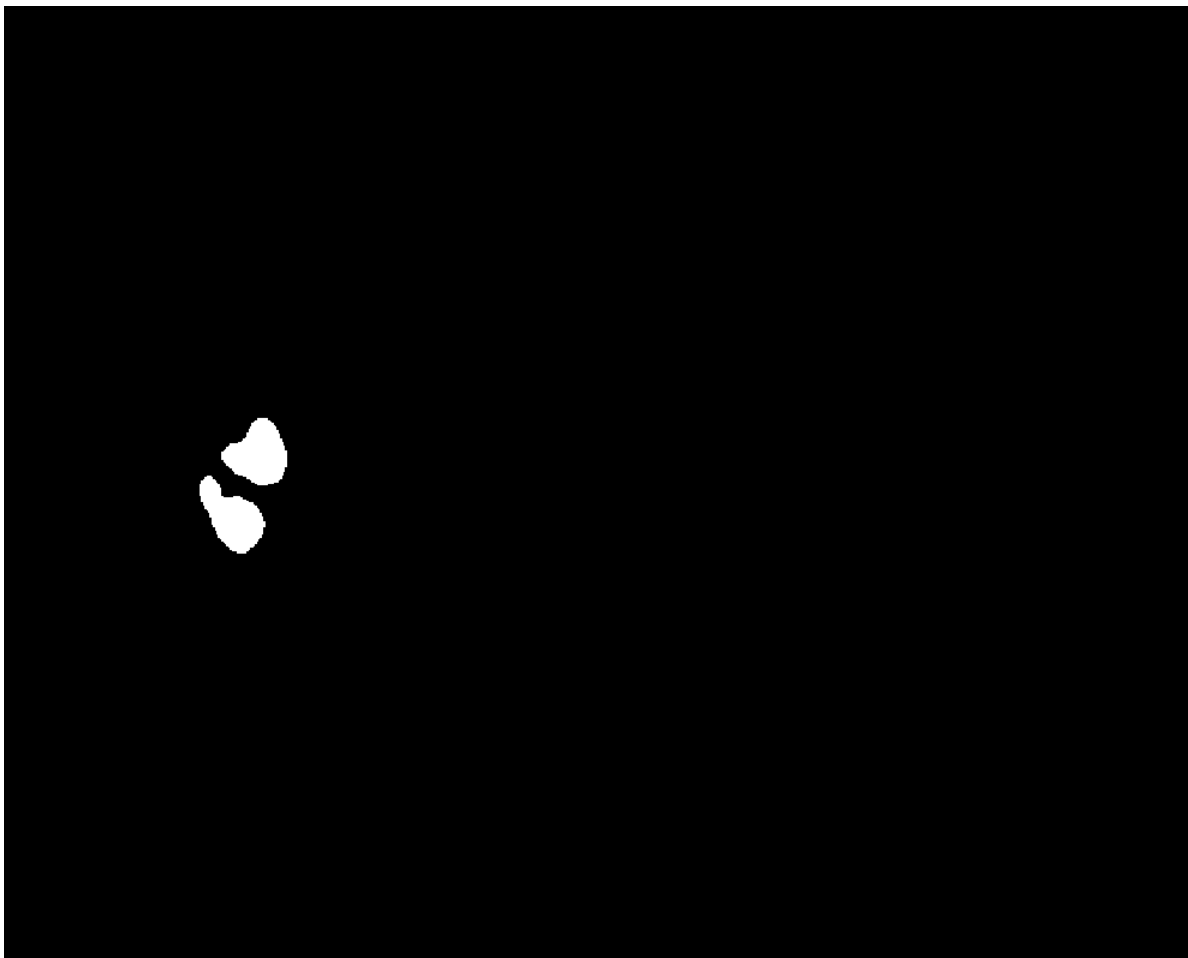


```
%guassian filter   3
Iblur1 = imgaussfilt(pout_imadjust,2);
```
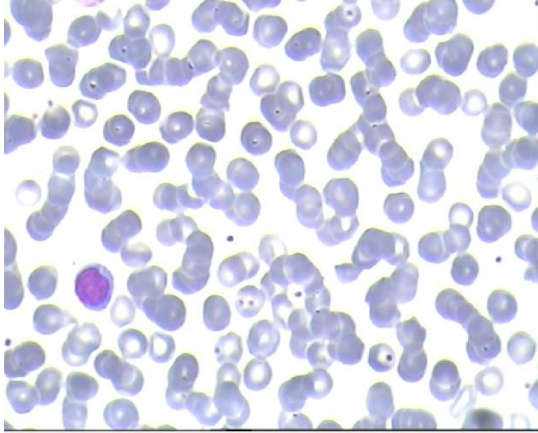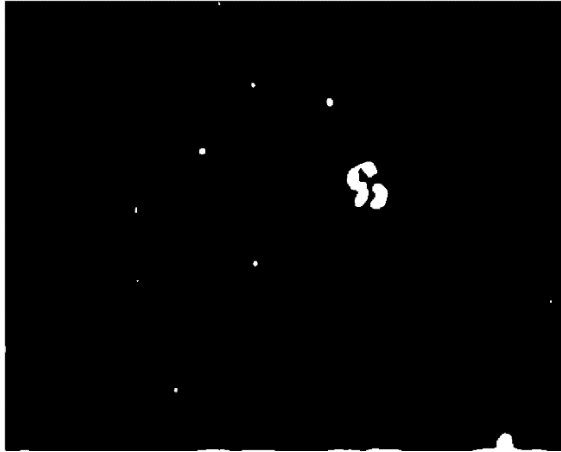
```
%threshold filter    4
w=Iblur1<35;
```
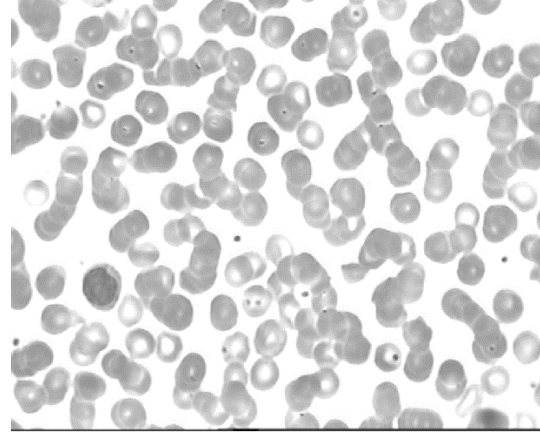


```
%oppening   5
se=strel('disk',3);
 X=imopen(w,se);
```



```
%comp conn   6
CC = bwconncomp(X);
S = regionprops(CC, 'Area');
L = labelmatrix(CC);
BW2 = ismember(L, find([S.Area] >= 300));
```
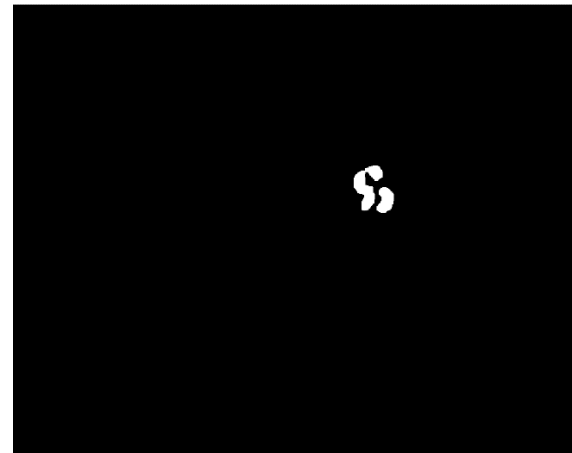


```
%clear
BWc1 = imclearborder(BW2,8);
```
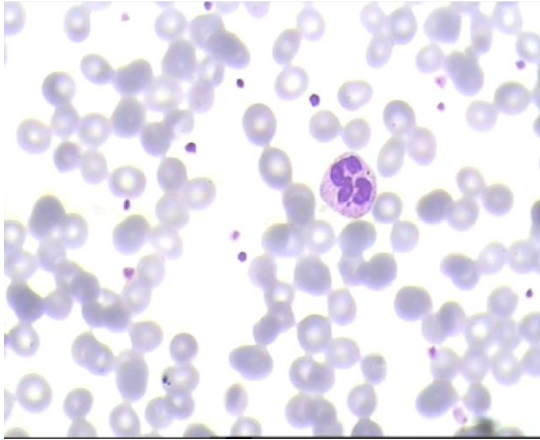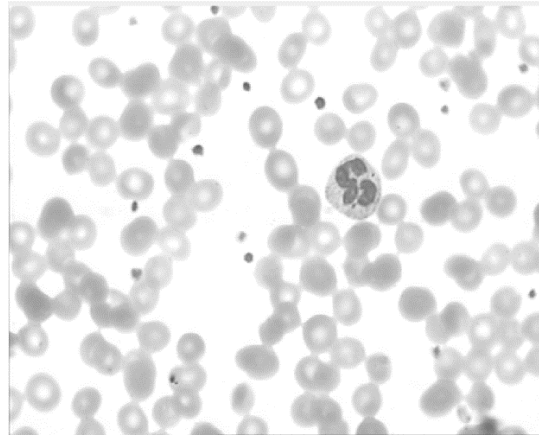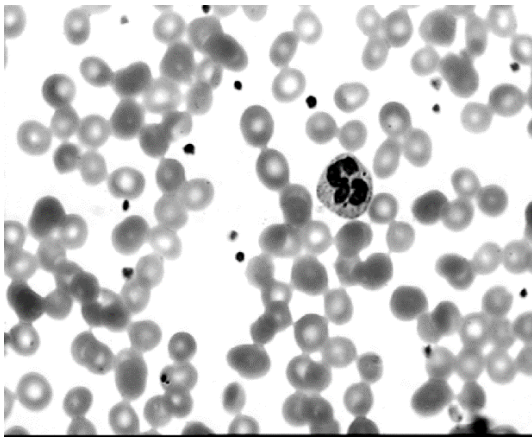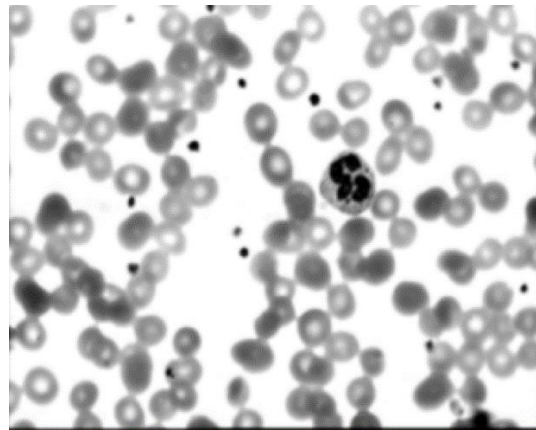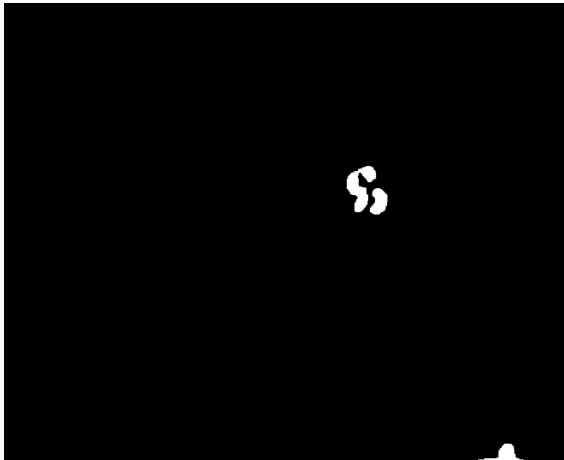
Phase Two

Table:

Each Class Table code:

```matlab
%Initialization
T1 = table(Area,MajorAxisLength,MinorAxisLength,Perimeter,Eccentricity);
T1.Label=repmat(char('Baso'),size(T1,1),1);


//Inside the loop
newRow = {Area,MajorAxisLength,MinorAxisLength,Perimeter,Eccentricity,
repmat(char('Baso'),size(T,1),1)};
C1=vertcat(T1);
T1 = [T1;newRow]; //append


//Concatenate all tables
T6=vertcat(T1,T2,T3,T4,T5);
T6
```
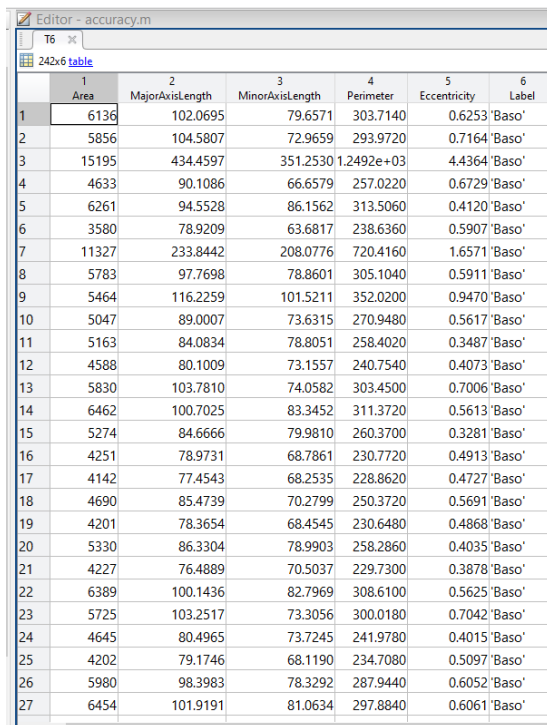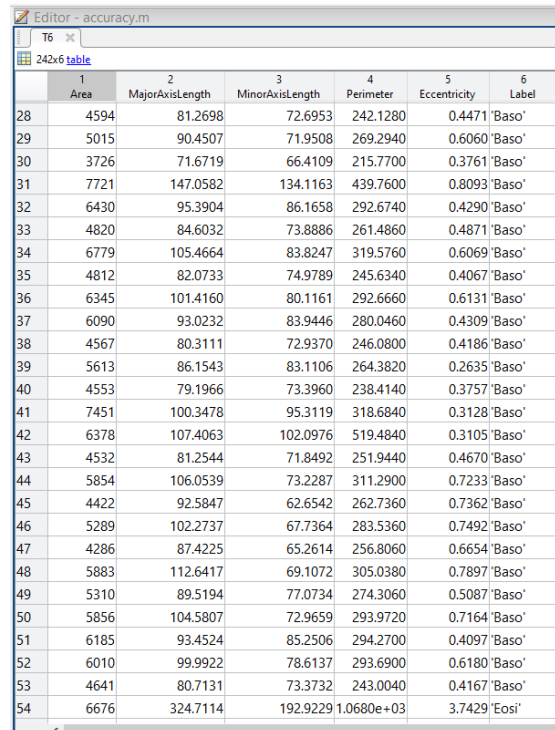
Editor - accuracy.m
T6
242x6 table

	1 Area	2 MajorAxisLength	3 MinorAxisLength	4 Perimeter	5 Eccentricity	6 Label
1	6136	102.0695	79.6571	303.7140	0.6253	'Baso'
2	5856	104.5807	72.9659	293.9720	0.7164	'Baso'
3	15195	434.4597	351.2530	1.2492e+03	4.4364	'Baso'
4	4633	90.1086	66.6579	257.0220	0.6729	'Baso'
5	6261	94.5528	86.1562	313.5060	0.4120	'Baso'
6	3580	78.9209	63.6817	238.6360	0.5907	'Baso'
7	11327	233.8442	208.0776	720.4160	1.6571	'Baso'
8	5783	97.7698	78.8601	305.1040	0.5911	'Baso'
9	5464	116.2259	101.5211	352.0200	0.9470	'Baso'
10	5047	89.0007	73.6315	270.9480	0.5617	'Baso'
11	5163	84.0834	78.8051	258.4020	0.3487	'Baso'
12	4588	80.1009	73.1557	240.7540	0.4073	'Baso'
13	5830	103.7810	74.0582	303.4500	0.7006	'Baso'
14	6462	100.7025	83.3452	311.3720	0.5613	'Baso'
15	5274	84.6666	79.9810	260.3700	0.3281	'Baso'
16	4251	78.9731	68.7861	230.7720	0.4913	'Baso'
17	4142	77.4543	68.2535	228.8620	0.4727	'Baso'
18	4690	85.4739	70.2799	250.3720	0.5691	'Baso'
19	4201	78.3654	68.4545	230.6480	0.4868	'Baso'
20	5330	86.3304	78.9903	258.2860	0.4035	'Baso'
21	4227	76.4889	70.5037	229.7300	0.3878	'Baso'
22	6389	100.1436	82.7969	308.6100	0.5625	'Baso'
23	5725	103.2517	73.3056	300.0180	0.7042	'Baso'
24	4645	80.4965	73.7245	241.9780	0.4015	'Baso'
25	4202	79.1746	68.1190	234.7080	0.5097	'Baso'
26	5980	98.3983	78.3292	287.9440	0.6052	'Baso'
27	6454	101.9191	81.0634	297.8840	0.6061	'Baso'

Editor - accuracy.m
T6
242x6 table

	1 Area	2 MajorAxisLength	3 MinorAxisLength	4 Perimeter	5 Eccentricity	6 Label
28	4594	81.2698	72.6953	242.1280	0.4471	'Baso'
29	5015	90.4507	71.9508	269.2940	0.6060	'Baso'
30	3726	71.6719	66.4109	215.7700	0.3761	'Baso'
31	7721	147.0582	134.1163	439.7600	0.8093	'Baso'
32	6430	95.3904	86.1658	292.6740	0.4290	'Baso'
33	4820	84.6032	73.8886	261.4860	0.4871	'Baso'
34	6779	105.4664	83.8247	319.5760	0.6069	'Baso'
35	4812	82.0733	74.9789	245.6340	0.4067	'Baso'
36	6345	101.4160	80.1161	292.6660	0.6131	'Baso'
37	6090	93.0232	83.9446	280.0460	0.4309	'Baso'
38	4567	80.3111	72.9370	246.0800	0.4186	'Baso'
39	5613	86.1543	83.1106	264.3820	0.2635	'Baso'
40	4553	79.1966	73.3960	238.4140	0.3757	'Baso'
41	7451	100.3478	95.3119	318.6840	0.3128	'Baso'
42	6378	107.4063	102.0976	519.4840	0.3105	'Baso'
43	4532	81.2544	71.8492	251.9440	0.4670	'Baso'
44	5854	106.0539	73.2287	311.2900	0.7233	'Baso'
45	4422	92.5847	62.6542	262.7360	0.7362	'Baso'
46	5289	102.2737	67.7364	283.5360	0.7492	'Baso'
47	4286	87.4225	65.2614	256.8060	0.6654	'Baso'
48	5883	112.6417	69.1072	305.0380	0.7897	'Baso'
49	5310	89.5194	77.0734	274.3060	0.5087	'Baso'
50	5856	104.5807	72.9659	293.9720	0.7164	'Baso'
51	6185	93.4524	85.2506	294.2700	0.4097	'Baso'
52	6010	99.9922	78.6137	293.6900	0.6180	'Baso'
53	4641	80.7131	73.3732	243.0040	0.4167	'Baso'
54	6676	324.7114	192.9229	1.0680e+03	3.7429	'Eosi'

	1 Area	2 MajorAxisLength	3 MinorAxisLength	4 Perimeter	5 Eccentricity	6 Label
53	4641	80.7131	73.3732	243.0040	0.4167	'Baso'
54	6676	324.7114	192.9229	1.0680e+03	3.7429	'Eosi'
55	16161	738.0722	494.8541	2.2147e+03	11.0804	'Eosi'
56	6056	288.6281	191.7492	907.3040	4.0626	'Eosi'
57	2790	81.7438	52.9129	298.9750	0.7622	'Eosi'
58	2088	90.1073	64.8856	252.3080	1.1394	'Eosi'
59	2994	86.4383	47.5442	229.1010	0.8351	'Eosi'
60	3377	292.0767	81.0791	660.8440	2.7857	'Eosi'
61	2319	64.2802	51.8511	216.1320	0.5910	'Eosi'
62	3326	165.6681	67.8932	475.9060	1.8085	'Eosi'
63	0	0	0	0	0	'Eosi'
64	2753	73.4400	52.4352	273.2070	0.7002	'Eosi'
65	4217	85.1740	72.6518	334.4540	0.5219	'Eosi'
66	5570	88.7484	80.2680	275.1740	0.4266	'Eosi'
67	5478	87.9740	79.8678	285.3880	0.4193	'Eosi'
68	5500	89.9205	78.9692	270.1790	0.4783	'Eosi'
69	4090	74.8164	72.4437	233.0290	0.2498	'Eosi'
70	3457	70.8567	62.2113	207.8550	0.4787	'Eosi'
71	3601	91.8832	55.6724	271.5180	0.7955	'Eosi'
72	30248	1.4567e+03	915.3771	4.0677e+03	22.2728	'Eosi'
73	2508	67.5067	49.8993	193.9680	0.6735	'Eosi'
74	2695	78.6732	51.3602	275.8940	0.7575	'Eosi'
75	25980	1.2103e+03	782.6213	3.4392e+03	17.8944	'Eosi'
76	2781	139.2817	65.0753	361.0940	1.7681	'Eosi'
77	45030	2.0289e+03	1.1711e+03	5.5455e+03	28.0241	'Eosi'
78	6754	328.1328	226.1738	918.4290	5.1617	'Eosi'
79	3416	81.8054	65.1829	323.7210	0.6042	'Eosi'

	1 Area	2 MajorAxisLength	3 MinorAxisLength	4 Perimeter	5 Eccentricity	6 Label
76	2781	139.2817	65.0753	361.0940	1.7681	'Eosi'
77	45030	2.0289e+03	1.1711e+03	5.5455e+03	28.0241	'Eosi'
78	6754	328.1328	226.1738	918.4290	5.1617	'Eosi'
79	3416	81.8054	65.1829	323.7210	0.6042	'Eosi'
80	5727	114.3662	101.1199	579.4190	0.4672	'Eosi'
81	61191	2.6635e+03	1.5385e+03	7.3644e+03	35.1900	'Eosi'
82	23204	1.1059e+03	606.6958	3.1044e+03	15.0514	'Eosi'
83	38598	1.6867e+03	1.0755e+03	4.7294e+03	23.7369	'Eosi'
84	9612	502.4249	284.0286	1.3663e+03	7.4482	'Eosi'
85	2809	121.4737	68.8158	367.3860	1.5853	'Eosi'
86	7921	300.0728	225.1361	941.0450	3.8012	'Eosi'
87	4542	274.6959	158.3293	804.9510	3.6818	'Eosi'
88	3103	162.3221	57.7512	394.5380	1.8477	'Eosi'
89	5119	284.4240	186.6222	834.1620	4.7869	'Eosi'
90	1960	80.7456	63.1774	225.0980	1.1976	'Eosi'
91	2138	95.7719	63.2626	304.6910	1.3254	'Eosi'
92	15534	809.6148	465.5047	2.2108e+03	13.1736	'Eosi'
93	15894	418.9575	251.4005	1.1058e+03	3.7515	'Lymp'
94	0	0	0	0	0	'Lymp'
95	3034	71.3383	54.6337	197.5180	0.6430	'Lymp'
96	0	0	0	0	0	'Lymp'
97	2620	63.4356	52.8855	181.7140	0.5522	'Lymp'
98	2931	63.5167	58.8721	189.5700	0.3754	'Lymp'
99	0	0	0	0	0	'Lymp'
100	2978	63.1012	60.1864	190.9020	0.3004	'Lymp'
101	2747	68.1768	52.3470	191.6460	0.6407	'Lymp'
102	0	0	0	0	0	'Lymp'
103	3339	77.4379	55.4977	210.1960	0.6974	'Lymp'

	1 Area	2 MajorAxisLength	3 MinorAxisLength	4 Perimeter	5 Eccentricity	6 Label
103	3339	77.4379	55.4977	210.1960	0.6974	'Lymp'
104	4465	90.4199	63.3807	243.1540	0.7132	'Lymp'
105	4289	82.1826	66.8332	233.9820	0.5819	'Lymp'
106	4354	83.7853	66.6561	237.5040	0.6059	'Lymp'
107	2404	58.6346	52.3355	171.6900	0.4509	'Lymp'
108	3233	71.5657	57.8729	201.5780	0.5883	'Lymp'
109	3204	69.0450	59.2891	199.5940	0.5125	'Lymp'
110	3390	73.9307	59.3354	213.8600	0.5965	'Lymp'
111	4664	114.9035	104.7015	346.3560	0.7772	'Lymp'
112	5212	123.7350	108.7381	366.7680	0.9530	'Lymp'
113	5523	136.9669	103.3682	375.6180	1.3121	'Lymp'
114	3245	68.2307	60.6981	200.5540	0.4567	'Lymp'
115	3033	69.3289	56.6764	200.5780	0.5759	'Lymp'
116	3271	70.3169	59.4550	201.5120	0.5339	'Lymp'
117	3239	68.7705	60.0614	199.7760	0.4871	'Lymp'
118	2888	62.8382	58.6500	188.0160	0.3590	'Lymp'
119	3187	70.8190	57.6531	201.3880	0.5807	'Lymp'
120	4016	78.7073	65.3612	226.2980	0.5571	'Lymp'
121	4019	74.7162	69.0104	225.6200	0.3833	'Lymp'
122	3329	70.9238	59.9479	203.3480	0.5344	'Lymp'
123	3833	79.9549	61.2577	220.6920	0.6427	'Lymp'
124	3325	72.9891	59.1941	212.2800	0.5850	'Lymp'
125	5601	130.0910	110.5299	374.9980	0.9482	'Lymp'
126	5979	136.8941	113.1269	394.5820	1.0958	'Lymp'
127	5959	127.0389	119.0616	388.0560	0.6794	'Lymp'
128	2327	66.4998	44.9434	176.7520	0.7370	'Lymp'
129	2765	64.5001	54.7163	185.3860	0.5295	'Lymp'

	1 Area	2 MajorAxisLength	3 MinorAxisLength	4 Perimeter	5 Eccentricity	6 Label
130	9464	224.7778	165.5800	636.5340	1.9253	'Lymp'
131	2388	59.0656	52.0011	175.6600	0.4742	'Lymp'
132	3620	77.2949	60.0106	216.6640	0.6303	'Lymp'
133	3647	72.6104	64.4215	216.1760	0.4613	'Lymp'
134	5770	146.0869	102.2747	396.2760	1.3260	'Lymp'
135	3568	77.8448	59.4906	220.3860	0.6450	'Lymp'
136	2444	59.2961	52.5480	172.8400	0.4633	'Lymp'
137	3498	71.6268	62.6315	209.5100	0.4852	'Lymp'
138	2740	60.5065	57.7259	182.8800	0.2997	'Lymp'
139	2450	56.0377	55.7576	172.3680	0.0999	'Lymp'
140	4191	79.0997	68.2849	231.3020	0.5047	'Lymp'
141	4919	84.5797	74.4927	249.7360	0.4736	'Lymp'
142	4085	73.7361	70.6471	224.7440	0.2864	'Lymp'
143	4459	92.1075	62.0020	243.3680	0.7395	'Lymp'
144	2455	58.6354	53.3883	173.2040	0.4135	'Lymp'
145	2511	70.4965	46.6319	189.8840	0.7500	'Mono'
146	2078	63.8773	43.1201	166.9920	0.7378	'Mono'
147	3488	86.4597	52.7506	233.7340	0.7923	'Mono'
148	3564	113.8497	49.9124	374.5360	0.8988	'Mono'
149	2599	77.7467	47.4317	250.7620	0.7923	'Mono'
150	4047	106.7390	64.0101	389.0580	0.8002	'Mono'
151	2423	69.6989	45.8217	185.2940	0.7535	'Mono'
152	2620	82.3931	58.9957	279.3920	0.6981	'Mono'
153	2270	61.2845	48.5865	171.0040	0.6095	'Mono'
154	3632	82.6254	56.7248	226.9420	0.7271	'Mono'
155	0	0	0	0	0	'Mono'
156	0	0	0	0	0	'Mono'

T6 — 242x6 table (rows 157–183)

	Area	MajorAxisLength	MinorAxisLength	Perimeter	Eccentricity	Label
157	3336	109.6126	44.2312	297.4140	0.9150	'Mono'
158	3307	113.5531	52.7306	393.3920	0.8856	'Mono'
159	2468	72.4149	44.2942	187.9260	0.7911	'Mono'
160	3116	82.3452	51.0550	228.5320	0.7846	'Mono'
161	3647	85.1548	58.7877	243.3340	0.7235	'Mono'
162	4107	105.3764	67.6184	343.6360	0.7670	'Mono'
163	4600	180.3465	86.7450	534.3530	1.6464	'Mono'
164	3041	90.7384	52.0421	296.9940	0.8192	'Mono'
165	3679	94.7697	67.7810	328.9900	0.6989	'Mono'
166	3622	88.1431	53.6417	235.2480	0.7935	'Mono'
167	3929	101.2035	59.3886	312.4260	0.8097	'Mono'
168	2691	81.8962	42.0401	198.4680	0.8582	'Mono'
169	3469	95.3686	51.0661	293.4120	0.8446	'Mono'
170	4066	102.9166	68.3080	328.6280	0.7480	'Mono'
171	3595	91.0922	63.0076	276.8280	0.7222	'Mono'
172	3630	93.3474	53.7256	249.8440	0.8178	'Mono'
173	3110	80.1505	55.5556	278.1440	0.7208	'Mono'
174	3364	102.5338	54.2947	289.9700	0.8483	'Mono'
175	3175	76.9879	57.5612	238.9600	0.6641	'Mono'
176	2745	89.0576	39.9265	209.7240	0.8939	'Mono'
177	0	0	0	0	0	'Mono'
178	2717	72.1972	48.5412	190.9200	0.7402	'Mono'
179	10091	392.4398	173.7635	1.0643e+03	3.5530	'Mono'
180	2834	82.7256	44.7298	205.6140	0.8412	'Mono'
181	4163	115.9991	53.8885	303.0380	0.8855	'Mono'
182	3236	99.4125	53.6711	281.5940	0.8417	'Mono'
183	2739	87.8919	40.2473	212.6280	0.8890	'Mono'

Editor - accuracy.m — T6 — 242x6 table (rows 184–210)

	Area	MajorAxisLength	MinorAxisLength	Perimeter	Eccentricity	Label
184	3825	98.6500	56.5699	315.8740	0.8192	'Mono'
185	3638	99.6991	51.9249	296.3400	0.8537	'Mono'
186	0	0	0	0	0	'Mono'
187	3813	99.7461	55.4564	321.9180	0.8312	'Mono'
188	4670	177.3701	86.2533	464.1840	1.6207	'Mono'
189	2664	78.9345	44.0968	203.2160	0.8294	'Mono'
190	3069	88.8027	52.8121	351.8760	0.8039	'Mono'
191	3078	69.6693	61.7255	243.4340	0.4637	'Mono'
192	2574	79.8463	44.5510	207.8880	0.8299	'Mono'
193	941	71.9546	36.2524	175.5010	1.3729	'Neut'
194	2381	111.9307	59.8232	297.7110	1.6644	'Neut'
195	1094	74.8394	42.1006	195.3340	1.6327	'Neut'
196	939	62.6965	21.8707	147.6480	0.9372	'Neut'
197	4395	259.9202	173.2290	691.3710	5.5859	'Neut'
198	1948	89.3056	63.2175	261.3230	1.1834	'Neut'
199	1591	111.3925	60.5451	281.4840	2.4935	'Neut'
200	1072	68.9513	33.2120	184.1440	0.8764	'Neut'
201	1092	82.9827	38.3114	206.9200	1.7669	'Neut'
202	329	24.9320	18.2228	74.3820	0.6825	'Neut'
203	1395	89.4443	52.0275	240.4970	1.4088	'Neut'
204	1708	69.5104	47.6014	257.3110	0.7287	'Neut'
205	1645	80.2548	54.2370	234.5170	1.4994	'Neut'
206	1437	74.5270	52.2398	208.9960	1.3939	'Neut'
207	2047	94.3768	69.2572	359.6130	1.4065	'Neut'
208	1860	104.8850	72.1365	283.6100	1.7664	'Neut'
209	1488	75.3664	53.6197	228.0910	1.2184	'Neut'
210	1536	93.3061	66.8251	257.2520	1.9342	'Neut'

Editor - accuracy.m — T6 — 242x6 table (rows 211–237)

	Area	MajorAxisLength	MinorAxisLength	Perimeter	Eccentricity	Label
211	1472	66.3579	40.0920	236.0970	0.7968	'Neut'
212	1385	97.2488	45.8225	243.7550	1.7440	'Neut'
213	1482	66.1607	44.7695	201.2810	0.7363	'Neut'
214	1055	67.1584	30.4107	181.0010	0.8916	'Neut'
215	1672	96.2243	49.6504	248.8160	1.6866	'Neut'
216	1536	68.1669	40.2797	238.4960	0.8067	'Neut'
217	1595	97.8852	54.2296	283.3450	1.6598	'Neut'
218	1844	70.5247	59.8862	302.4330	0.5281	'Neut'
219	1749	108.5939	69.0888	302.3160	1.9946	'Neut'
220	1533	110.8950	43.5968	273.8260	1.8354	'Neut'
221	1769	68.5658	38.6344	204.6050	0.8261	'Neut'
222	2070	135.0852	68.2052	370.3390	2.3096	'Neut'
223	3087	172.2655	92.3865	501.5620	2.4327	'Neut'
224	1650	108.0014	63.2584	299.9840	2.2595	'Neut'
225	1234	65.6894	54.2245	199.9730	0.9171	'Neut'
226	1859	115.3628	56.0212	311.3320	1.7507	'Neut'
227	1576	110.2925	43.0016	268.7400	1.8471	'Neut'
228	1499	90.0408	49.5649	235.5680	1.6645	'Neut'
229	1531	93.7365	52.6785	288.6120	1.3884	'Neut'
230	2579	151.0137	75.8010	383.9110	2.4600	'Neut'
231	1615	102.5804	46.0475	250.6860	1.7778	'Neut'
232	1755	95.8069	52.2767	268.9710	1.6768	'Neut'
233	1545	61.3081	55.1675	299.1900	0.4362	'Neut'
234	1300	74.6261	46.5501	207.7970	1.5698	'Neut'
235	1477	93.7922	51.8028	287.9920	1.4009	'Neut'
236	959	66.5317	26.7850	162.1120	0.9154	'Neut'
237	1736	123.9315	47.4584	290.2510	1.8294	'Neut'

Editor - accuracy.m — T6 — 242x6 table (rows 220–242)

	Area	MajorAxisLength	MinorAxisLength	Perimeter	Eccentricity	Label
220	1533	110.8950	43.5968	273.8260	1.8354	'Neut'
221	1769	68.5658	38.6344	204.6050	0.8261	'Neut'
222	2070	135.0852	68.2052	370.3390	2.3096	'Neut'
223	3087	172.2655	92.3865	501.5620	2.4327	'Neut'
224	1650	108.0014	63.2584	299.9840	2.2595	'Neut'
225	1234	65.6894	54.2245	199.9730	0.9171	'Neut'
226	1859	115.3628	56.0212	311.3320	1.7507	'Neut'
227	1576	110.2925	43.0016	268.7400	1.8471	'Neut'
228	1499	90.0408	49.5649	235.5680	1.6645	'Neut'
229	1531	93.7365	52.6785	288.6120	1.3884	'Neut'
230	2579	151.0137	75.8010	383.9110	2.4600	'Neut'
231	1615	102.5804	46.0475	250.6860	1.7778	'Neut'
232	1755	95.8069	52.2767	268.9710	1.6768	'Neut'
233	1545	61.3081	55.1675	299.1900	0.4362	'Neut'
234	1300	74.6261	46.5501	207.7970	1.5698	'Neut'
235	1477	93.7922	51.8028	287.9920	1.4009	'Neut'
236	959	66.5317	26.7850	162.1120	0.9154	'Neut'
237	1736	123.9315	47.4584	290.2510	1.8294	'Neut'
238	1230	66.8681	39.3625	234.2690	0.8084	'Neut'
239	2449	191.5807	94.5736	473.9470	3.8613	'Neut'
240	1542	110.5861	64.7053	291.1020	2.2789	'Neut'
241	1607	87.4191	59.8249	284.1800	1.4588	'Neut'
242	1753	74.5744	39.8666	218.9780	0.8451	'Neut'
243						
244						
245						
246						

Accuracy:

Accuracy = 81%