Point	Distance to (12,23)	Distance to (26,30)	Cluster
(4,13)	$\sqrt{[(12-4)^2 + (23-13)^2]} = \sqrt{(64+100)}=\sqrt{164} \approx 12.81$	$\sqrt{[(26-4)^2 + (30-13)^2]} = \sqrt{(484+289)}=\sqrt{773} \approx 27.80$	1
(12,23)	$\sqrt{[(12-12)^2 + (23-23)^2]}= 0.00$	$\sqrt{[(26-12)^2 + (30-23)^2]} = \sqrt{(196+49)}=\sqrt{245} \approx 15.65$	1
(29,21)	$\sqrt{[(12-29)^2 + (23-21)^2]} = \sqrt{(289+4)}=\sqrt{293} \approx 17.12$	$\sqrt{[(26-29)^2 + (30-21)^2]} = \sqrt{(9+81)}=\sqrt{90} \approx 9.49$	2
(16,12)	$\sqrt{[(12-16)^2 + (23-12)^2]} = \sqrt{(16+121)}=\sqrt{137} \approx 11.70$	$\sqrt{[(26-16)^2 + (30-12)^2]} = \sqrt{(100+324)}=\sqrt{424} \approx 20.59$	1
(19,15)	$\sqrt{[(12-19)^2 + (23-15)^2]} = \sqrt{(49+64)}=\sqrt{113} \approx 10.63$	$\sqrt{[(26-19)^2 + (30-15)^2]} = \sqrt{(49+225)}=\sqrt{274} \approx 16.55$	1
(26,30)	$\sqrt{[(12-26)^2 + (23-30)^2]} = \sqrt{(196+49)}=\sqrt{245} \approx 15.65$	$\sqrt{[(26-26)^2 + (30-30)^2]} = 0.00$	2
(32,22)	$\sqrt{[(12-32)^2 + (23-22)^2]} = \sqrt{(400+1)}=\sqrt{401} \approx 20.02$	$\sqrt{[(26-32)^2 + (30-22)^2]} = \sqrt{(36+64)} = \sqrt{100} = 10.00$	2
(13,17)	$\sqrt{[(12-13)^2 + (23-17)^2]} = \sqrt{(1+36)}=\sqrt{37} \approx 6.08$	$\sqrt{[(26-13)^2 + (30-17)^2]} = \sqrt{(169+169)} =\sqrt{338} \approx 18.38$	1
(40,1)	$\sqrt{[(12-40)^2 + (23-1)^2]} = \sqrt{(784+484)}=\sqrt{1268} \approx 35.61$	$\sqrt{[(26-40)^2 + (30-1)^2]} = \sqrt{(196+841)} =\sqrt{1037} \approx 32.19$	2
(5,6)	$\sqrt{[(12-5)^2 + (23-6)^2]} = \sqrt{(49+289)}=\sqrt{338} \approx 18.38$	$\sqrt{[(26-5)^2 + (30-6)^2]} = \sqrt{(441+576)} =\sqrt{1017} \approx 31.89$	1

After the first iteration, the clusters are:
Cluster 1: (4,13), (12,23), (16,12), (19,15), (13,17), (5,6)
Cluster 2: (29,21), (26,30), (32,22), (40,1)

The new centroids are calculated using the mean of the clusters gotten after the first iteration.

Centre 1: $x = \frac{4+12+16+19+13+5}{6} = 11.5$

$y = \frac{13+23+12+15+17+6}{6} = 14.33$

Centre 2: $x = \frac{29+26+32+40}{4} = 31.75$

$y = \frac{21+30+22+1}{4} = 18.5$

The new centroid are (11.5, 14.33) and (31.75, 18.5). The Euclidean distance would be calculated for the points for the second iteration.
Points that are close to (11.5,14.33) will be assigned cluster 1 while points that are close to (31.75,18.5) will be assigned cluster 2.