

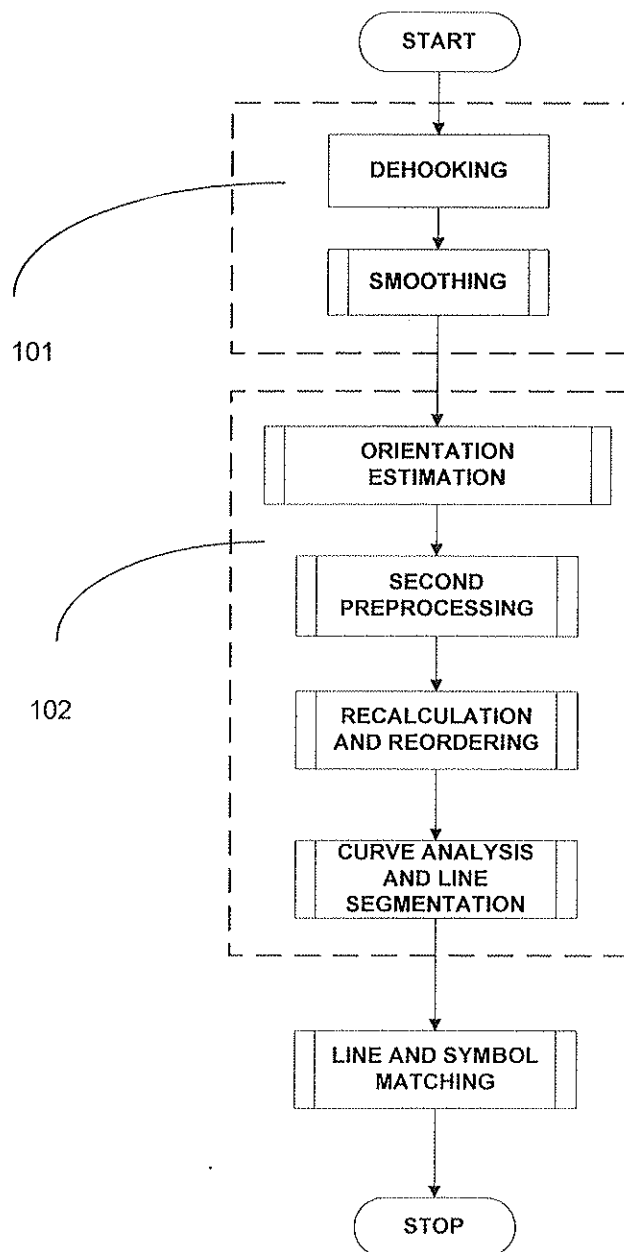
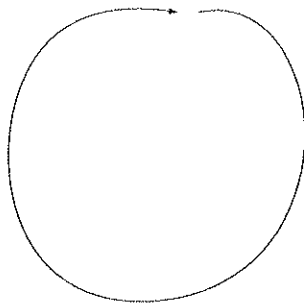
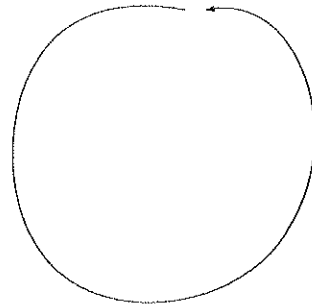


Figure 1: Flowchart of the Algorithm Process

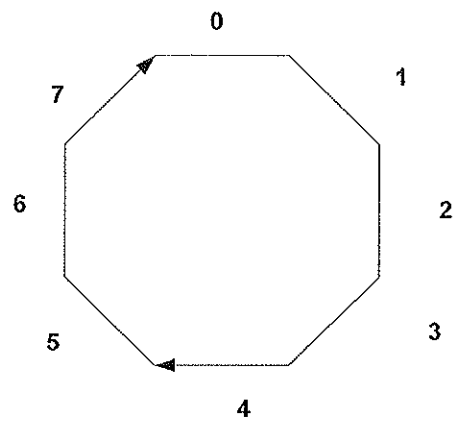


Clockwise Curve



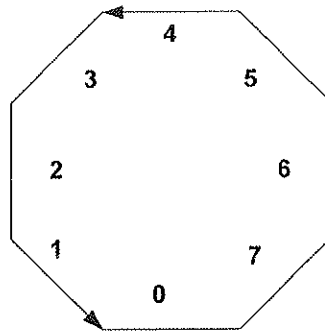
Anticlockwise Curve

Figure 2: Types of curves



Clockwise Curve

0-1-2-3
 1-2-3-4
 2-3-4-5
 3-4-5-6
 4-5-6-7
 5-6-7-0
 6-7-0-1
 7-0-1-2



Anticlockwise Curve

0-7-6-5

1-0-7-6

2-1-0-7

3-2-1-0

4-3-2-1

5-4-3-2

6-5-4-3

7-6-5-4

Figure 3: Example of curve directions

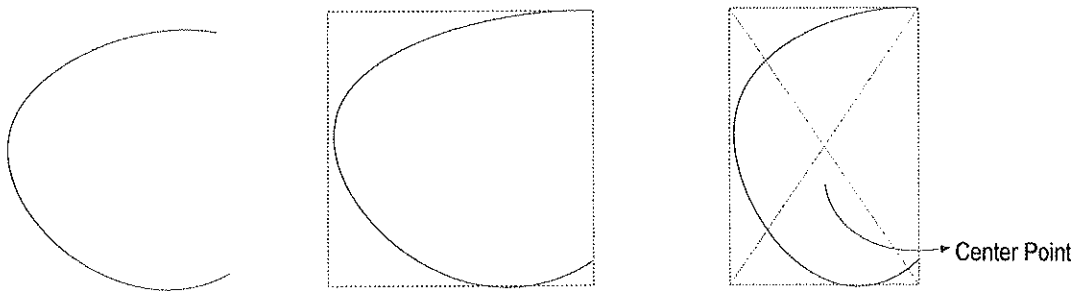


Figure 4a: Explanation to find center point of a curve

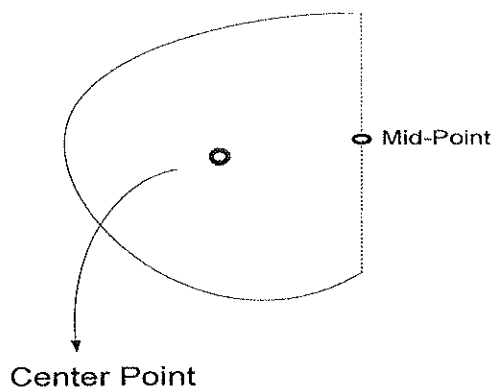


Figure 4b: Explanation to find mid-point

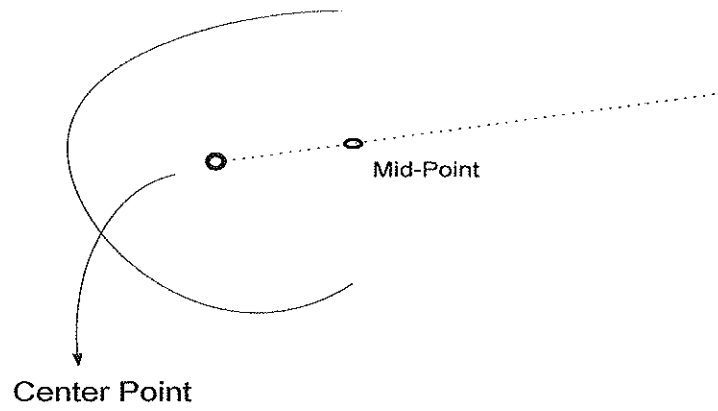


Figure 4c: Explanation to find orientation of the curve

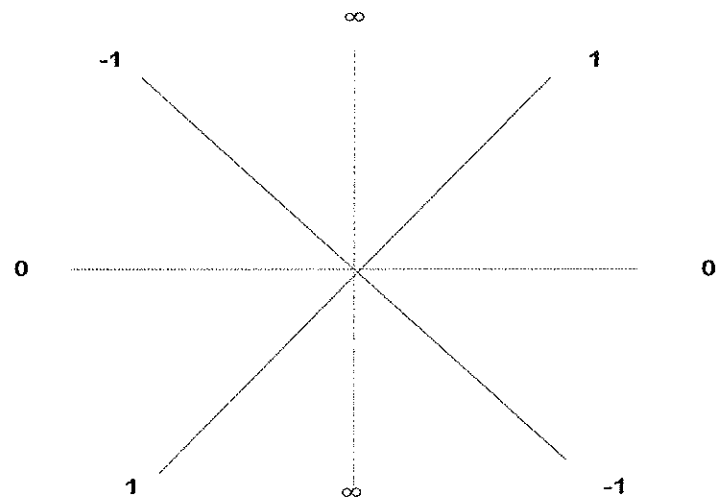


Figure 4d: Figure shows the slope value distribution range.

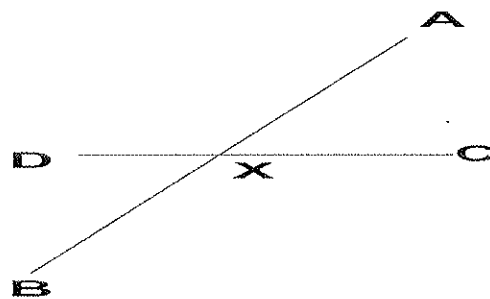


Figure 5a: Illustration for cases when there is an internal intersection.

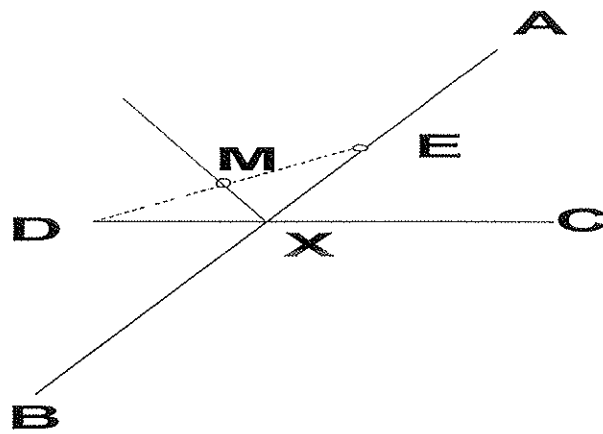


Figure 5b: Illustration for cases when there is an internal intersection.

Line Index Code	1 byte
Packet size	1 byte
Packet Size	1 byte
No of Directions (N)	1 byte
No of Intersections (M)	1 byte

Figure 6a: Line Template Header.



Figure 6b: Line Template Data.

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

Figure 7a: 1st Byte for Closed Symbol.

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

Figure 7b: 2nd Byte for Closed Symbol.

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

Figure 8: Line Data for spirals.

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

Figure 9: Line Data for lines with internal intersection.

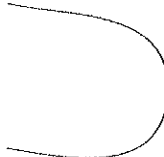
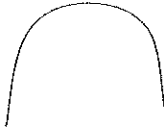
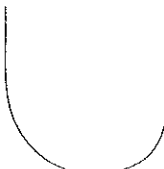
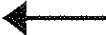
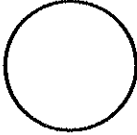
Slope	Co-ordinates	Symbol
$-1 < \text{Slope} < 1$	$X_1 > X_c$	
$-1 < \text{Slope} < 1$	$X_1 < X_c$	
$\text{Slope} > 1$ or $\text{Slope} < -1$	$Y_1 < Y_c$	
$\text{Slope} > 1$ or $\text{Slope} < -1$	$Y_1 > Y_c$	

Figure 10: Table to find curve direction

Direction	Meaning
0	
1	
2	
3	
4	
5	
6	
7	
8 (Closed)	
9 (Spiral: Full or Half)	
A	
B	

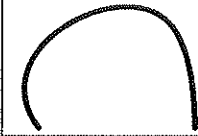
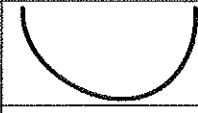
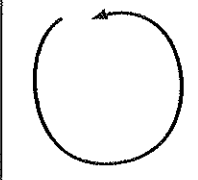
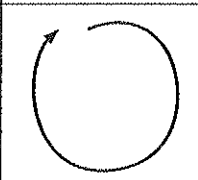
C	
D	
E (Anticlockwise direction)	
F (Clockwise direction)	

Figure 11: Line Template Data Direction Significance.