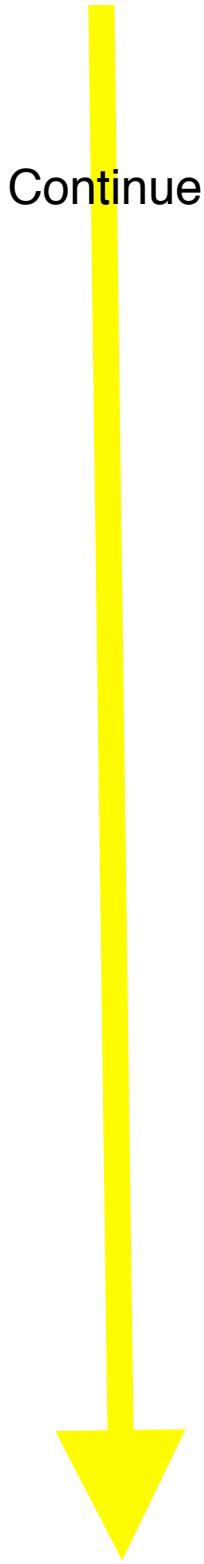

1) Template matching depends on the number of supplied templates; the more the templates the better the results. It has a higher complexity than Hough transform because it scans the whole image. So, if the picture is of size $n \times n$ and the template is of size $m \times m$:

- Complexity of template matching algorithm = $m \times m \times n \times n$
- Complexity of Hough algorithm = $m \times n \times n$

2)

m					
5	0	1	2	2	0
4	0	2	0	2	1
3	1	0	2	1	1
2	0	1	1	2	1
1	1	0	2	200	2
0	1	1	1	1	1
	0	1	2	3	4

c

a)

m	c	Equation of the line
0	0	$y = 0$
	1	$y = 1$
	2	$y = 2$
	3	$y = 3$
	4	$y = 4$
1	0	$y = x$
	2	$y = x + 2$
	3	$y = x + 3$
	4	$y = x + 4$
2	1	$y = 2x + 1$
	2	$y = 2x + 2$
	3	$y = 2x + 3$
	4	$y = 2x + 4$
3	0	$y = 3x$
	2	$y = 3x + 2$
	3	$y = 3x + 3$
	4	$y = 3x + 4$
4	1	$y = 4x + 1$
	3	$y = 4x + 3$
	4	$y = 4x + 4$
5	1	$y = 5x + 1$
	2	$y = 5x + 2$
	3	$y = 5x + 3$

b) $200 < \text{Edge points} < 230$
where 200 is the peak number of points and 230 is the total number of points.

c) We cannot represent vertical lines because then $m = \infty$, which is not allowed.