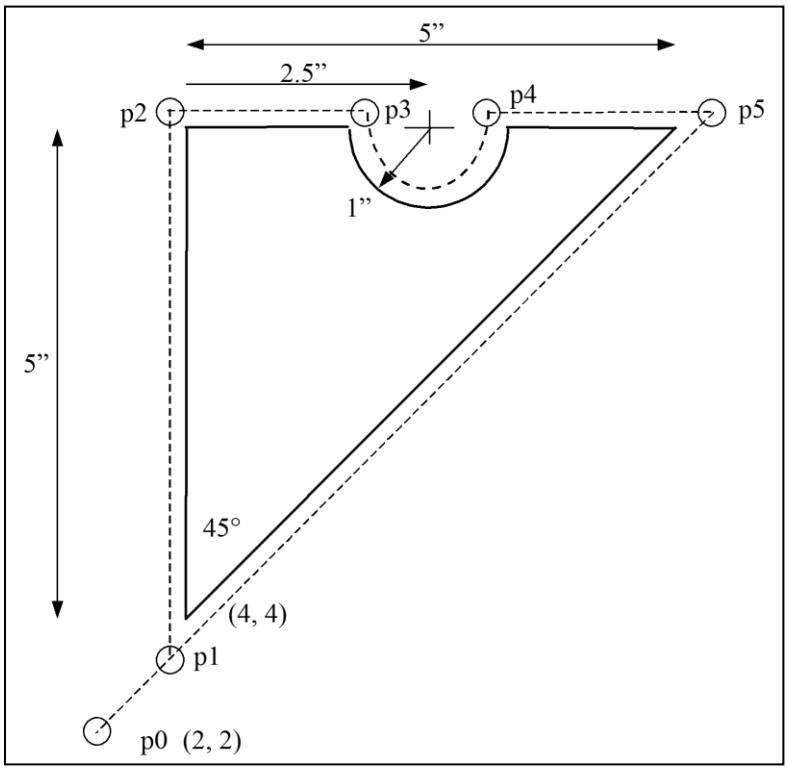
Manual Part Programming Example



Tool size = 0.25 inch,

Feed rate = 6 inch per minute,

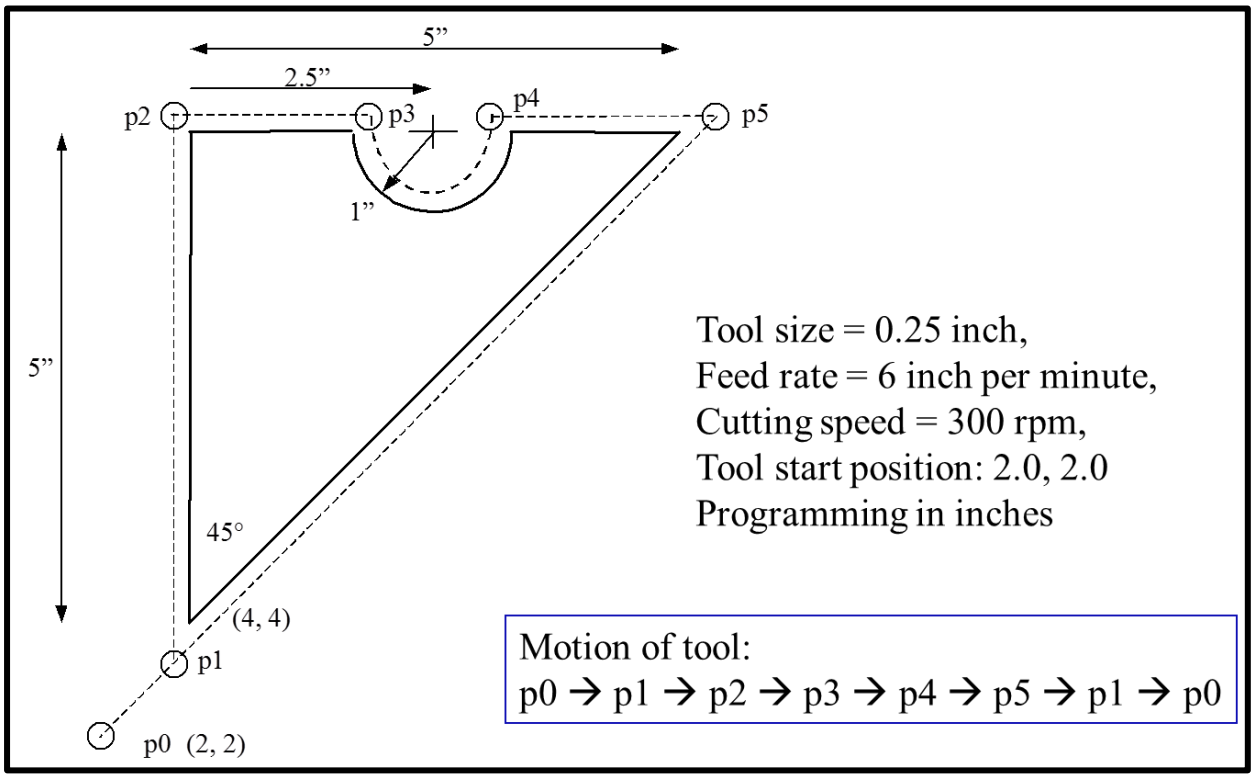
Cutting speed = 300 rpm,

Tool start position: 2.0, 2.0

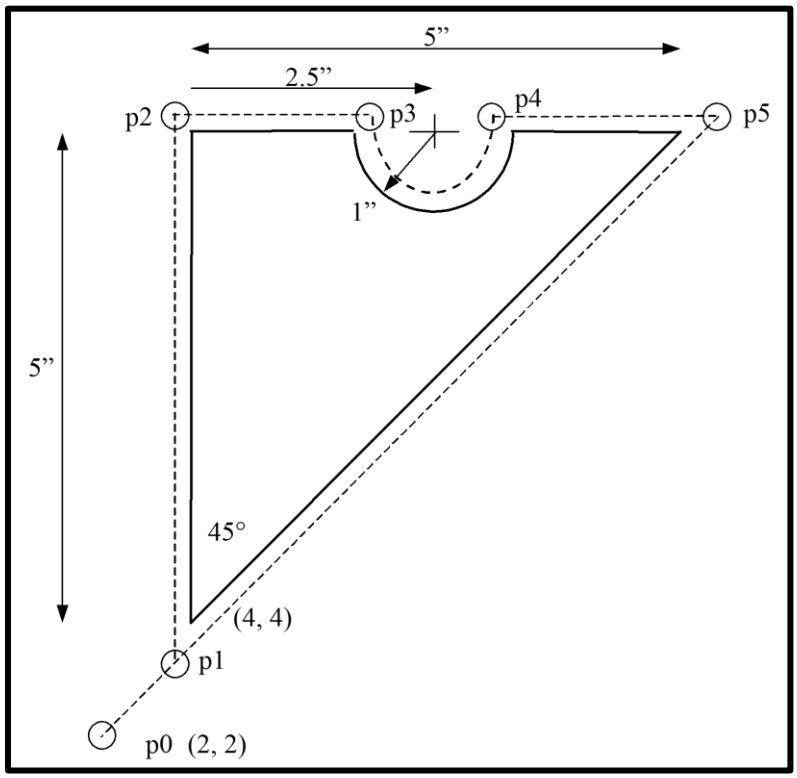
Programming in inches

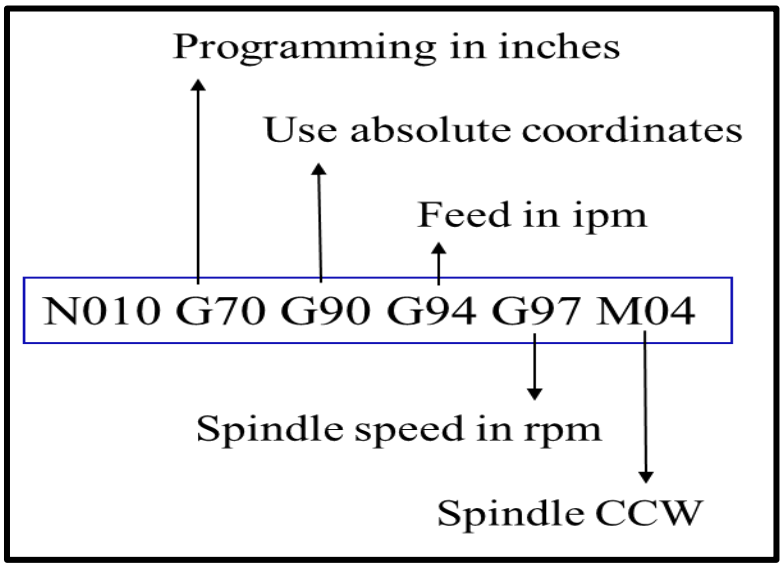
Motion of tool:

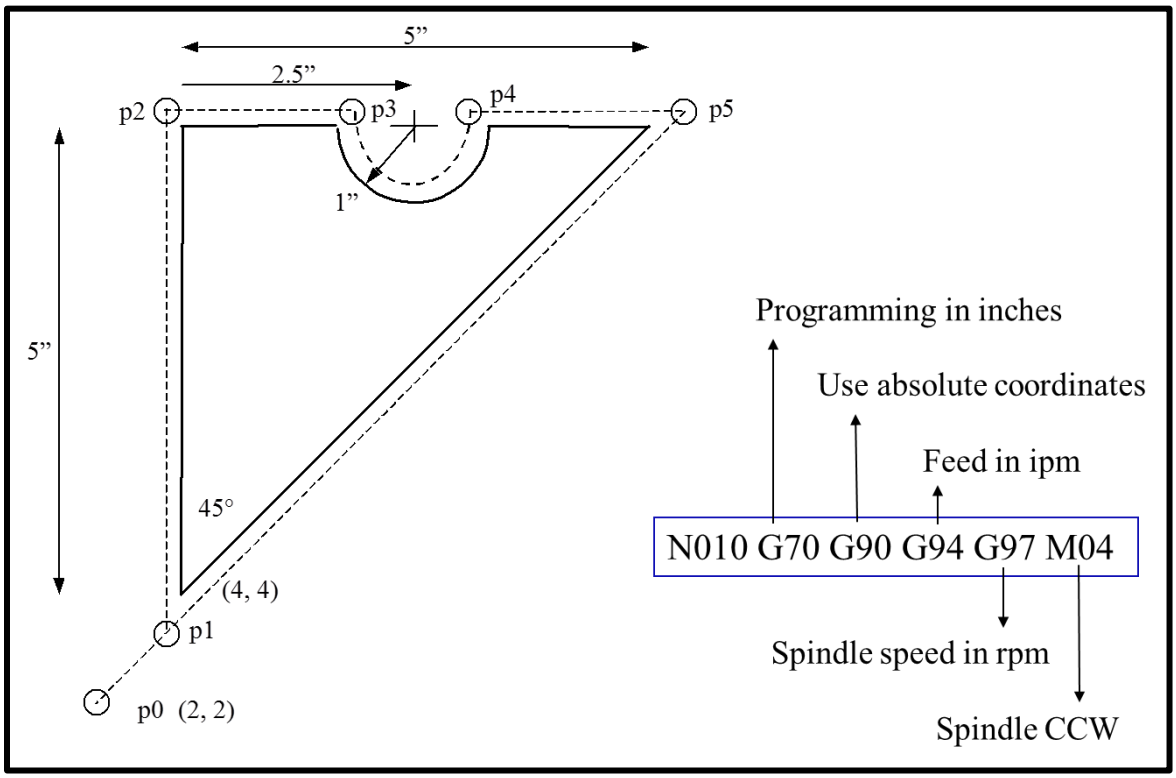
p0 → p1 → p2 → p3 → p4 → p5 → p1 → p0



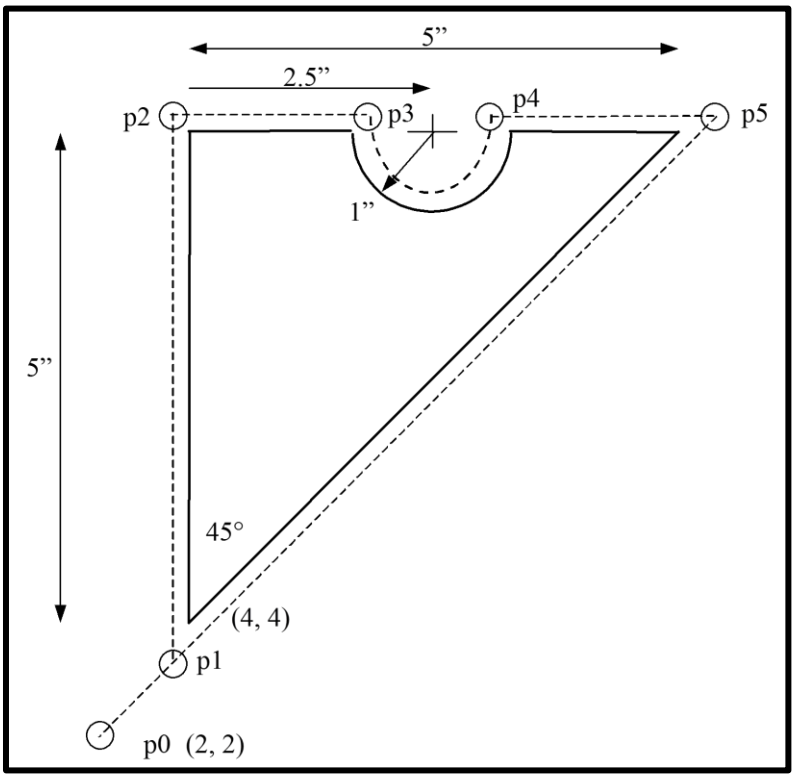
1. Set up the programming parameters

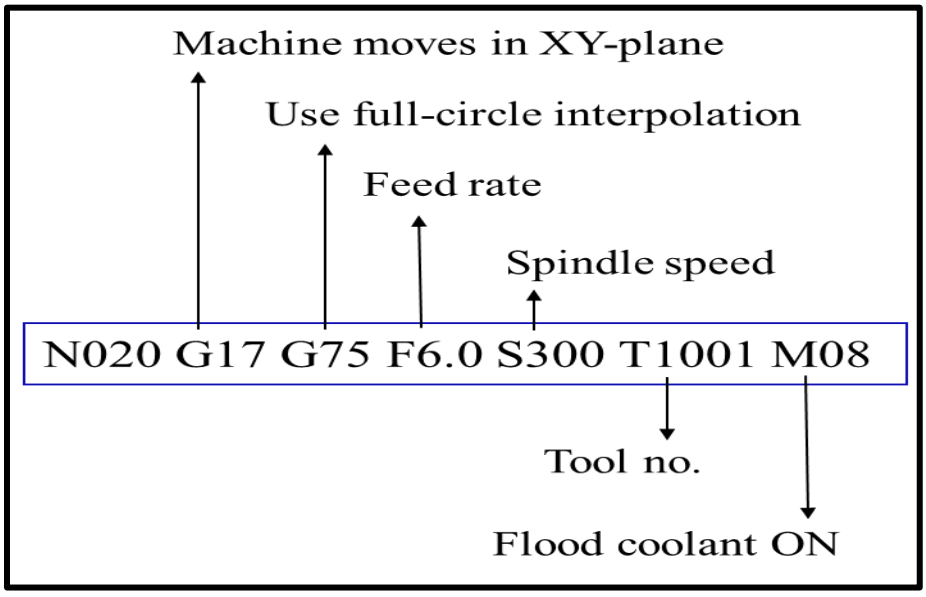


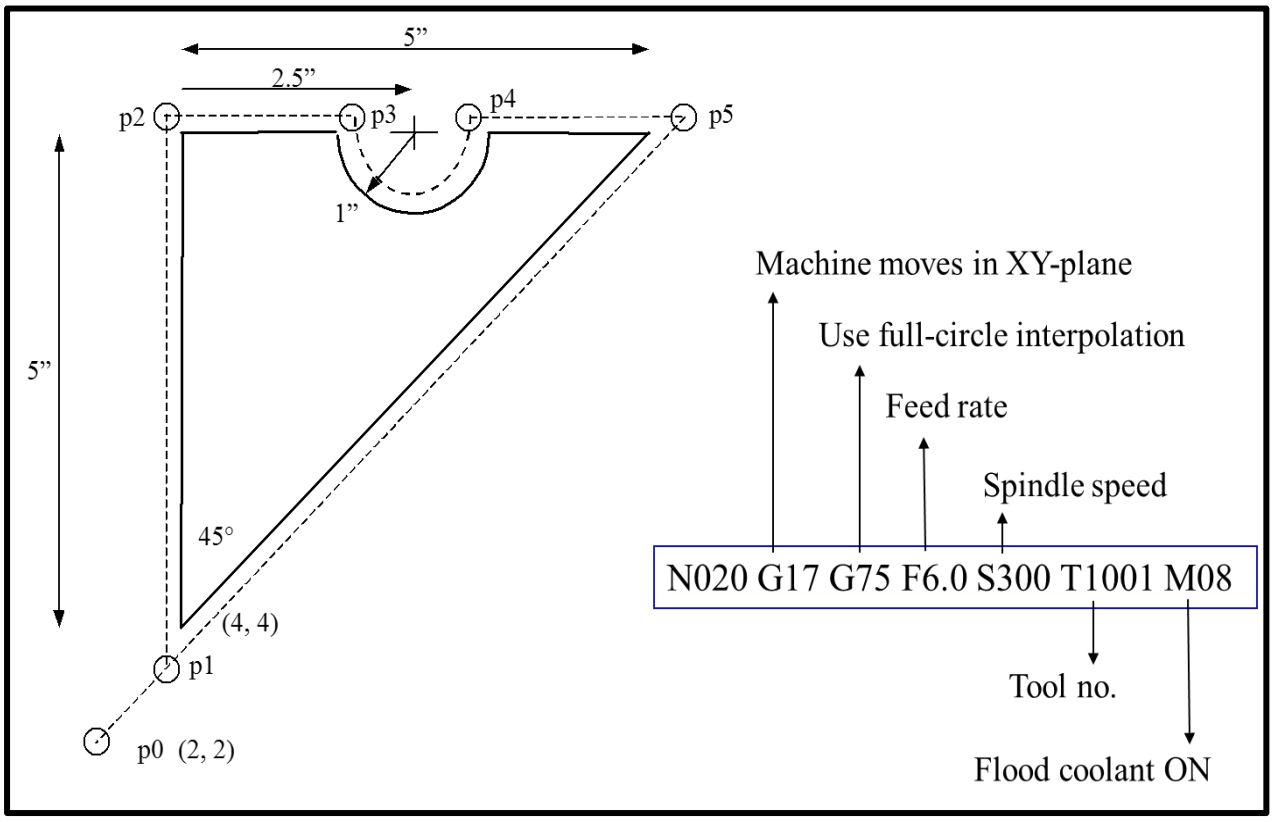

Programming in inches
Use absolute coordinates
Feed in ipm
N010 G70 G90 G94 G97 M04
Spindle speed in rpm
Spindle CCW


5”
2.5”
p2
p3
p4
p5
1”
5”
45°
(4, 4)
p1
p0 (2, 2)
Programming in inches
Use absolute coordinates
Feed in ipm
N010 G70 G90 G94 G97 M04
Spindle speed in rpm
Spindle CCW

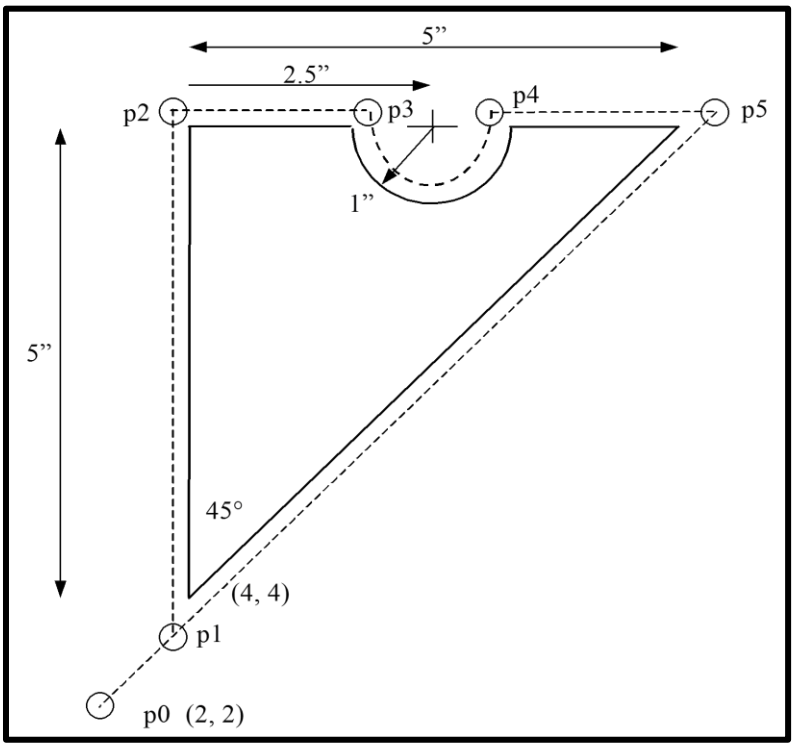
2. Set up the machining conditions

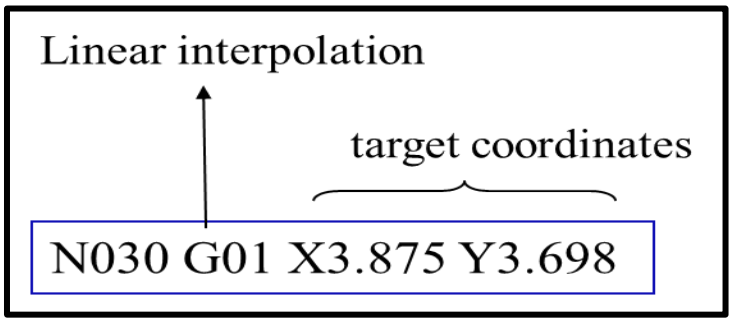


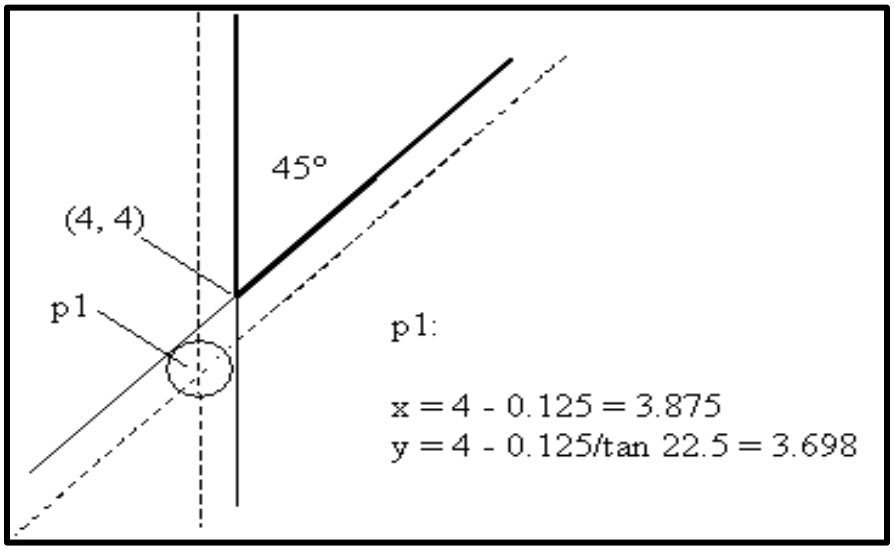


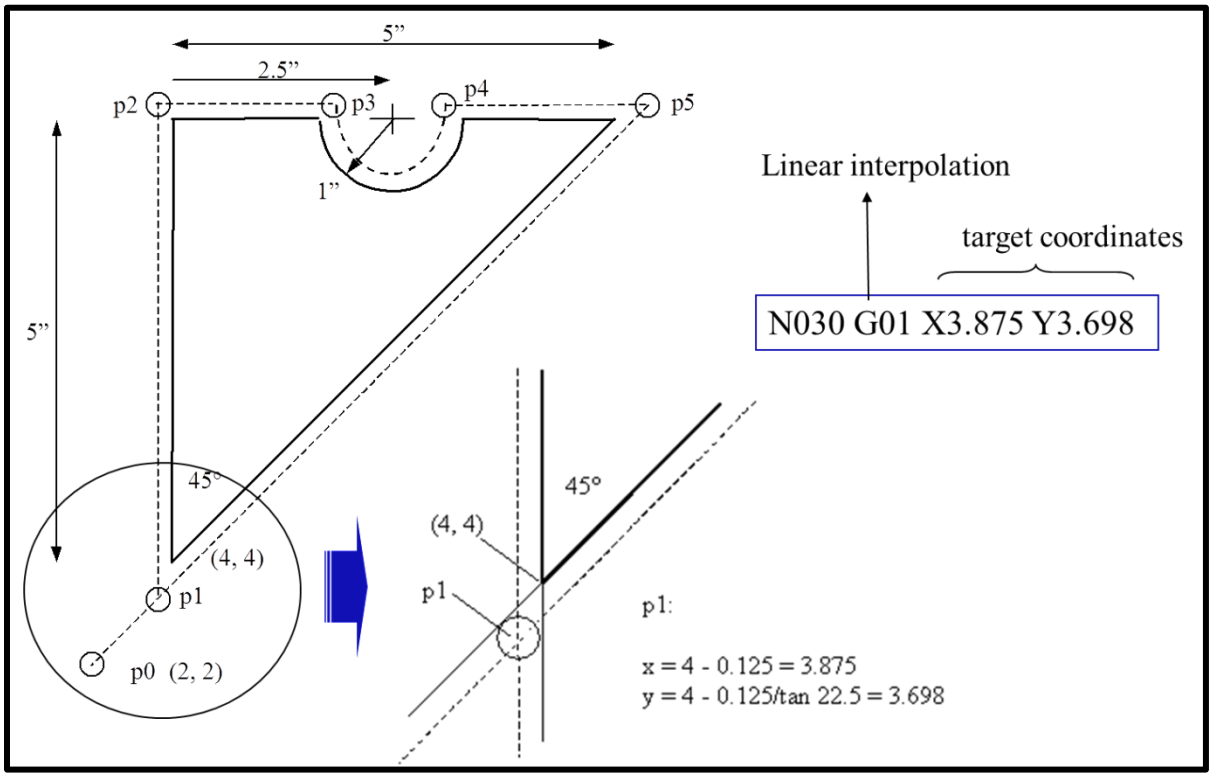


3. Move tool from p0 to p1 in straight line

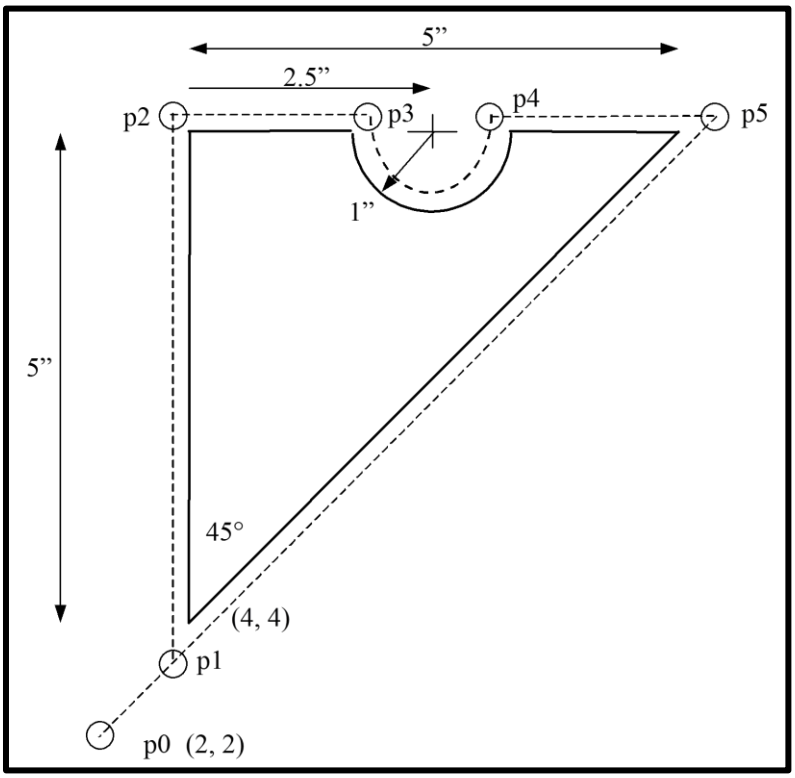


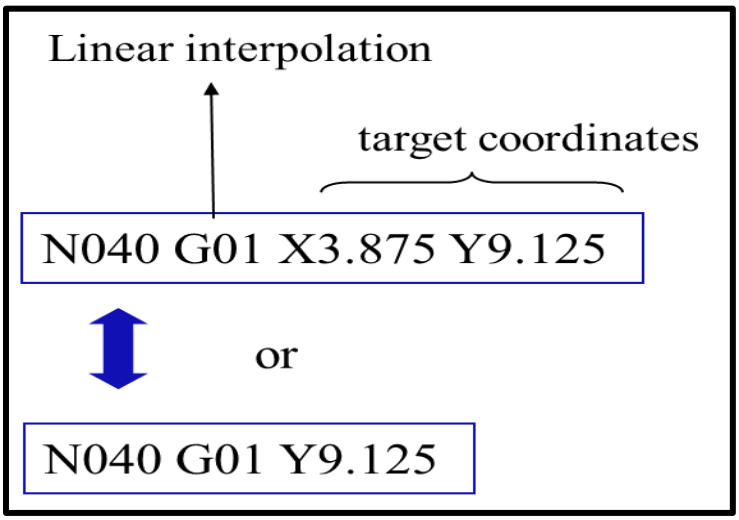

Linear interpolation
target coordinates
N030 G01 X3.875 Y3.698


45°
(4, 4)
p1
p1:
x = 4 - 0.125 = 3.875
y = 4 - 0.125/tan 22.5 = 3.698

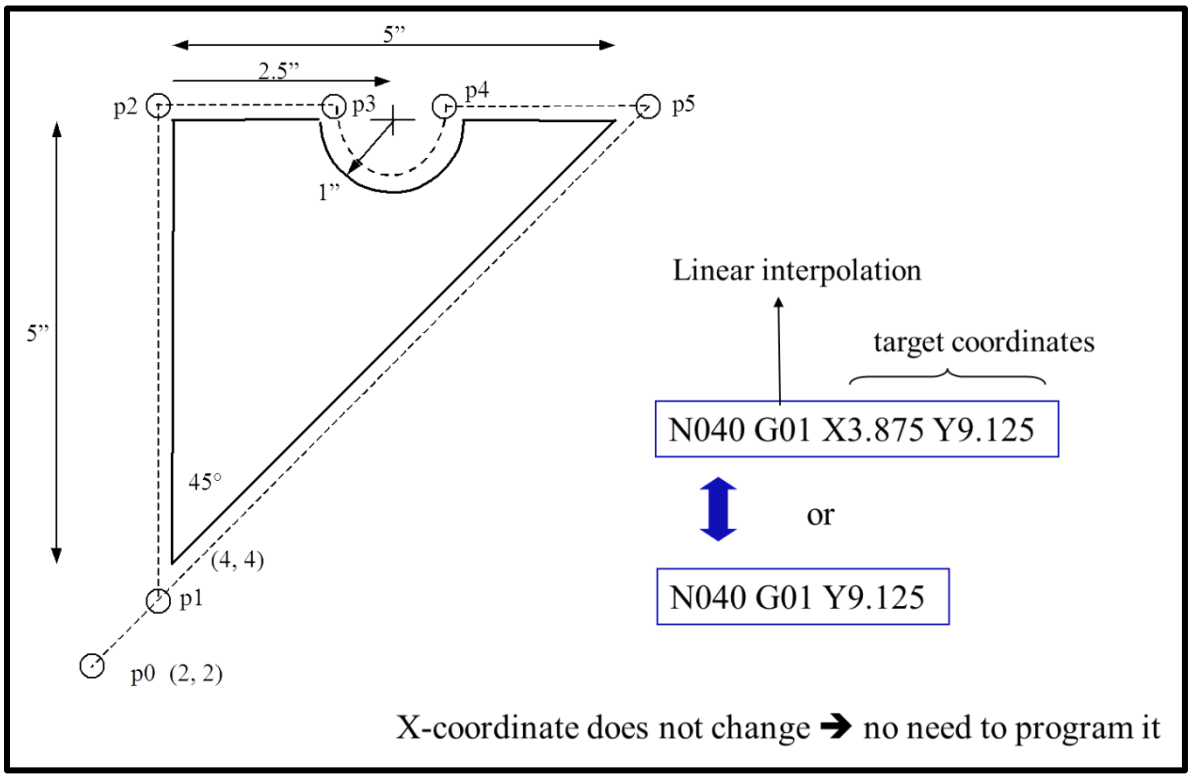

5”
2.5”
p2
p3
p4
p5
1”
5”
45°
(4, 4)
p1
p0 (2, 2)
Linear interpolation
target coordinates
N030 G01 X3.875 Y3.698
45°
(4, 4)
p1
p1:
x = 4 - 0.125 = 3.875
y = 4 - 0.125/tan 22.5 = 3.698

4. Cut profile from p1 to p2





X-coordinate does not change ➔ no need to program it



5. Cut profile from p2 to p3