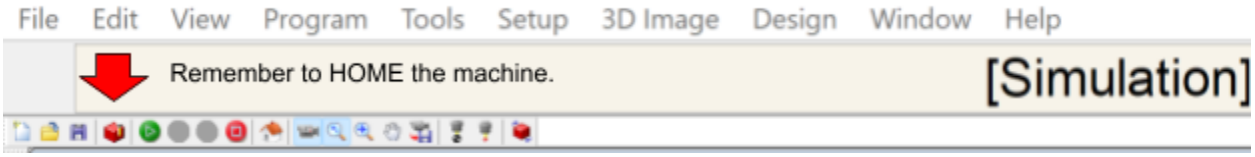
Jeide, Matthew 11/1/2025 Period 2

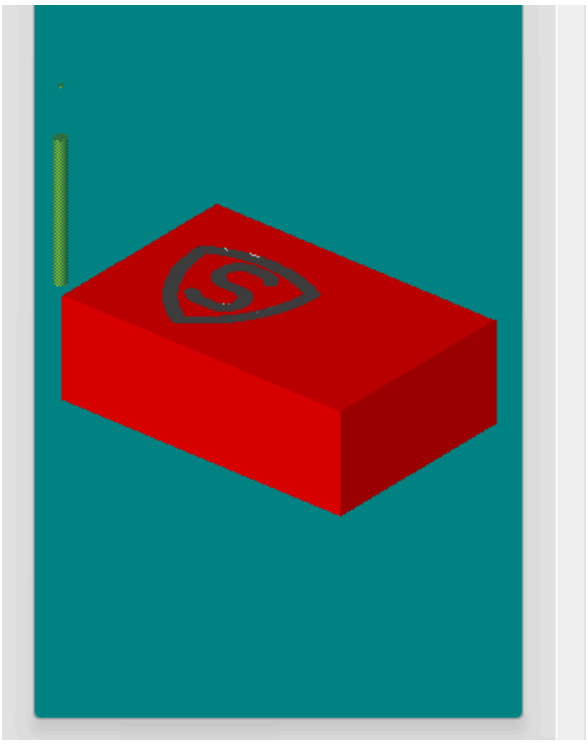
W12: CIM [PORTFOLIO] CNC Base STUDENT INITIALS & Super Hero Logo Software G & M Code

SUPERMAN EXAMPLE [STUDENTS MAY NOT USE THIS FOR THEIR PROJECT]

EXAMPLE CODE

Remember to home the machine first. Comment on the code below.



CNC MOTION SUPERMAN IMAGE	ABSOLUTE COORDINATES CODE
	N1 ;USE 3" X 2" X 1.5" MACHINABLE WAX N2 ;INITIALIZE STOCK TO X=0, Y=0, Z=0 N3 ;T1 IS A 1/8" END MILL N4 G0 Z.1 ; Rapid move up to safe Z-height (0.1") N5 G90 X.417 Y1.333 ; Set Absolute Positioning, rapid to start XY N6 S1500 M3 ; Set Spindle 1500 RPM, Spindle ON (Clockwise) N7 G1 Z-.02 F8 ; Linear feed (cut) down to Z-0.02" at 8 in/min N8 G2 X1.583 I1.000 J.314 ; Clockwise arc (Outer shield top) N9 X1.000 Y.314 I.401 J1.333 ; Clockwise arc (Outer shield bottom point) N10 X.417 Y1.333 I1.599 ; Clockwise arc (Complete shield, return to start) N11 G0 Z.1 ; Rapid move up to safe Z-height N12 X1.200 Y1.267 ; Rapid move to "S" start position N13 G1 Z-.02 ; Linear feed (cut) down to Z-0.02" N14 G3 X1.067 Y1.333 I1.067 J1.167 ; Counter-clockwise arc (Top of "S") N15 G1 X.933 ; Linear feed (straight line) N16 G3 Y1.000 I.933 ; Counter-clockwise arc (Middle of "S") N17 G1 X1.067 ; Linear feed (straight line) N18 G2 Y.667 I1.067 J.834 ; Clockwise arc (Bottom

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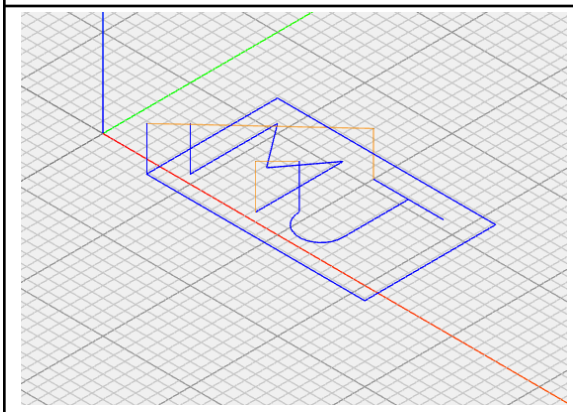
	of "S") N19 G1 X.933 ; Linear feed (straight line) N20 G2 X.800 Y.733 I.933 ; Clockwise arc (Bottom of "S") N21 G0 Z.1 M5 ; Rapid move up to safe Z-height, Spindle OFF N22 X0 Y0 ; Rapid move back to origin X0 Y0 N23 M2 ;END OF PROGRAM

Attach the E-Portfolio link here!

https://m-jeide.github.io/eng-portfolio/CIM/CNC%20Base%20-%20Initials%20%26%20Superhero

1. Insert the NC Viewer image of your code along with the **text code for your initials**

NC Viewer image of your Initials	**Text Code of G & M Code of your three Initials with comments.**
	G90 G20; absolute cord & inch mode M06 T2; tool change - load tool 2 M03 S3000; spin spindle to 3000rpm G00 X0.5 Y0.5 Z0.1 G91; incremental mode G01 Z-.5 F9; plunge G01 Y1 F16 G01 X.375 Y-.5 G01 X.375 Y.5 G01 Y-1 G01 Z.5 F9; retract G00 X.25 Y.25 ; RAPID TO POINT F G01 Z-.5 F9; plunge G03 X.50 Y0 I0.25 J0 F9

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	G01 Y.75 F12 G01 X0.4 G01 X-0.8 G01 Z0.5 F9; retract M05; stop spindle G90; absolute mode baby G00 X0.25 Y0.25 ; go to border starting G91 ; incremental mode G01 Z-.5 F9; plunge G01 X2.5 ; bottom side G01 Y1.5 ; right side G01 X-2.5 ; top side G01 Y-1.5 ; left side M02

2. Use **CNC Motion Software** on your classroom computers to test out your code. Make sure to view the videos from your notes to investigate the setup process for both the machine and the tools needed for the job. The tool for the job is a ⅛ inch drill bit.

Insert an image of your code in the software. Attempt to run the simulation. Include an image. If nothing happens review the tutorial videos to troubleshoot how to get the software to simulate your code onto a block. Recall the block is a 3inx2inx1in.

CNC Base Screenshot	**CNC Base 3 Student Initials including curves and centers. Comment on your code.**
	G90 G20; absolute cord & inch mode M06 T2; tool change - load tool 2 M03 S3000; spin spindle to 3000rpm G00 X0.5 Y0.5 Z0.1 G91; incremental mode G01 Z-.5 F9; plunge G01 Y1 F16 G01 X.375 Y-.5

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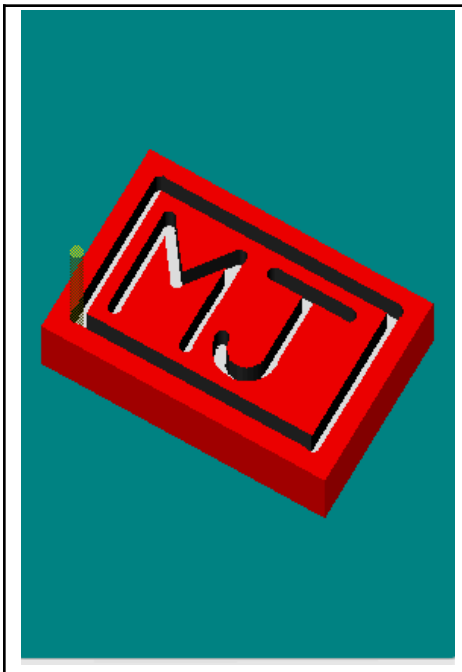


```
G01 X.375 Y.5
G01 Y-1

G01 Z.5 F9; retract

G00 X.25 Y.25                ; RAPID TO POINT F
G01 Z-.5 F9; plunge

G03 X.50 Y0 I0.25 J0 F9
G01 Y.75 F12
G01 X0.4
G01 X-0.8

G01 Z0.5 F9; retract
M05; stop spindle
G90; absolute mode baby
G00 X0.25 Y0.25 ; go to border starting

G91 ; incremental mode
G01 Z-.5 F9; plunge
G01 X2.5 ; bottom side
G01 Y1.5 ; right side
G01 X-2.5 ; top side
G01 Y-1.5 ; left side


M02
```

3. Insert a video link of your CNC Base software engraving your three initials onto the block.

Update your Portfolio with the steps needed for this project. See the link as a sample of the setup.
https://sites.google.com/riversideunified.org/guzmanportfolio/cim-home-page/g-m-code-project

https://m-jeide.github.io/eng-portfolio/CIM/CNC%20Base%20-%20Initials%20%26%20Superhero

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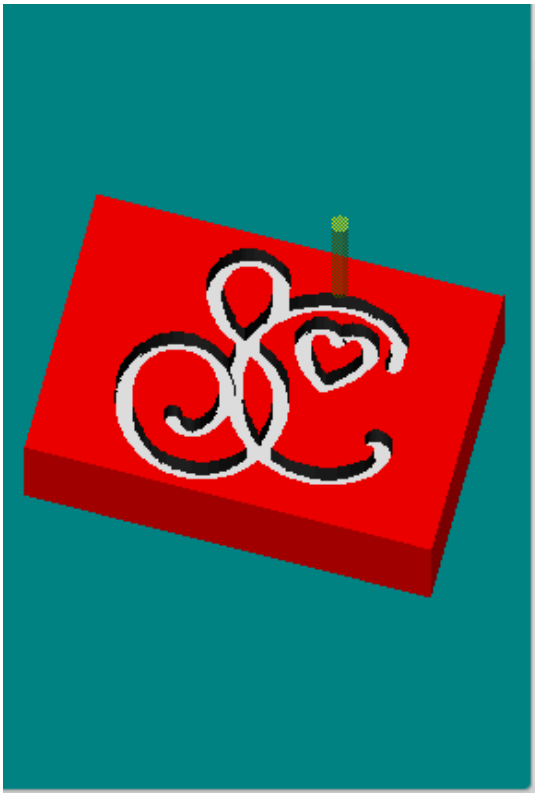
W12: CIM [PORTFOLIO] CNC Base STUDENT INITIALS & Super Hero Logo Software G & M Code

Super Hero Logo Updated and Created on CNC Motion

4. Complete the Super Hero Logo and Simulate the work on CNC Motion. (Include video link)

CNC Motion	Text Code of G & M Code of your SuperHero Logo with comments.
	G90 G20 G00 X0.5 Y0 Z1; starting absolute position G91 G01 X0.4536 Y0.524; relative starting point G01 Z-1.25; plunge G03 X0.22887 Y-0.04674 I0.1334 J0.0695 G03 X0.10268 Y0.34889 I-0.202 J0.249 G03 X-0.7125 Y-0.05843 I-0.347 J-0.124 G03 X1.04517 Y0.20645 I0.557 J-0.071 G03 X-0.33345 Y0.22811 I-0.621 J-0.55 G02 X-0.28583 Y0.33259 I0.2 J0.461 G02 X0.45034 Y0.1678 I0.246 J0.028 G02 X0.01292 Y-0.27869 I-0.59 J-0.167 G03 X0.94339 Y-0.94815 I0.517 J-0.429 G03 X0.074779 Y0.14934 I-0.149 J0.168 G03 X-0.09554 Y0.08208 I-0.071 J0.014 G00 Z1.25; retract G00 X-0.89532 Y0.73375 G01 Z-1.25; plunge G02 X0.78081 Y0.1265 I0.48 J-0.49 G01 X0.119045 Y-0.09884; resorting to a straight line G01 X-0.0032 Y-0.1875 G00 Z1.25; retract G00 X-0.4317 Y0.0893 G01 Z-1.25; plunge G03 X-0.2240 Y-0.13075 I-0.114 J-0.062 G03 X0.2096 Y-0.2232 I0.426 J0.19 G03 X0.2599 Y0.2681 I-0.325 J0.575 G03 X-0.24125 Y0.0934 I-0.124 J0.038 G00 Z1.25; retract M30