

# The Roman Script

```
height      = 0.04
width       = 0.03
ptsPerMeter = 300
ptsPerRadian = 10
xlocation   = 0.12
yLocation   = 0.30
space       = 0.008
```

```
xStartLoc = xlocation;
```

```
R = THE_LETTER_R(height, width, ptsPerMeter, ptsPerRadian, [xlocation, yLocation])
```

```
    xlocation = xlocation + width + space;
```

```
O = THE_LETTER_O(height, width, ptsPerMeter, ptsPerRadian, [xlocation, yLocation])
```

```
    xlocation = xlocation + width + space;
```

```
M = THE_LETTER_M(height, width, ptsPerMeter, [xlocation, yLocation])
```

```
    xlocation = xlocation + width + space;
```

```
A = THE_LETTER_A(height, width, ptsPerMeter, [xlocation, yLocation])
```

```
    xlocation = xlocation + width + space;
```

```
N = THE_LETTER_N(height, width, ptsPerMeter, [xlocation, yLocation])
```

```
LINE = StraightLine(0, 0, (xlocation + width - xStartLoc + 2*space), 0, ptsPerMeter);
```

```
LINE = LINE + [(xStartLoc - space), (yLocation + space)]
```

```
load RobotGeometry.mat Base
```

```
END = [Base/2, (yLocation + 5*space)]
```

```
xyROMANcell = {R O M A N LINE END};
```

```
noOfLetters = length(xyROMANcell);
```

```
for ii = 1:noOfLetters
```

```
    letter = xyROMANcell{ii};
```

# The Roman Script

```
plot(letter(:, 1), -letter(:, 2));
hold on;
end

hold off;

Z_i = initialPosition();

radROMANcell = cell(noOfLetters);

for ii = 1:noOfLetters
    radROMANcell{ii} = xyToRadians(xyROMANcell{ii}, Z_i, Base);
end

a = arduino;
carrier = motorCarrier(a);
s = servo(carrier, 3);
pidML = pidMotor(carrier, 2, 'position', 3, [0.14 0.0 0.01]);
pidMR = pidMotor(carrier, 1, 'position', 3, [0.14 0.0 0.01]);

load ServoPositions.mat LeftMarker RightMarker NoMarker
writePosition(s, NoMarker)

for ii = 1:noOfLetters
    % Get radians for current letter
    radianList = radROMANcell{ii};
    % Move to first letter and lower marker
    moveToRadians(radianList(1, :), pidML, pidMR)
    writePosition(s, LeftMarker)
    % Move to all positions of current letter
    moveToRadians(radianList, pidML, pidMR)
    % Raise marker
    writePosition(s, NoMarker)
end

clear
```