

Finite State Machine Designer

The diagram illustrates a Finite State Machine (FSM) designed for token recognition. It consists of 20 states, labeled Q0 through Q19. The initial state is Q0, indicated by an incoming arrow from the left. The final state is Q19, indicated by a double circle around the state label. Transitions between states are triggered by specific input symbols or sets of symbols, labeled on the transition arrows. These labels include arithmetic operators (+, *, %), punctuation ({, }, (,), &, |, /, -), non-terminals (N), terminals (E), meta-characters (M, L), and assignment (=), comparison (!, <, >) symbols. A prominent blue arc labeled 'L' connects the start state Q0 directly to state Q1.

M = TODO

E = CARACTERES QUE NO SON L NI N

N = 0-9

L = A-Z

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<?xml version="1.0" standalone="no"?>
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```
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN"  
"https://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">
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<svg width="800" height="600" version="1.1" xmlns="http://www.w3.org/2000/svg">
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  <ellipse stroke="black" stroke-width="1" fill="none" cx="100.5" cy="304.5" rx="30" ry="30"/>
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```
  <text x="88.5" y="310.5" font-family="Times New Roman" font-size="20">Q0</text>
```

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  <ellipse stroke="black" stroke-width="1" fill="none" cx="431.5" cy="51.5" rx="30" ry="30"/>
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```
  <text x="419.5" y="57.5" font-family="Times New Roman" font-size="20">Q1</text>
```

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  <ellipse stroke="black" stroke-width="1" fill="none" cx="431.5" cy="51.5" rx="24" ry="24"/>
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  <ellipse stroke="black" stroke-width="1" fill="none" cx="331.5" cy="142.5" rx="30" ry="30"/>
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```
  <text x="319.5" y="148.5" font-family="Times New Roman" font-size="20">Q3</text>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="331.5" cy="142.5" rx="24" ry="24"/>
```

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  <ellipse stroke="black" stroke-width="1" fill="none" cx="382.5" cy="96.5" rx="30" ry="30"/>
```

```
  <text x="370.5" y="102.5" font-family="Times New Roman" font-size="20">Q2</text>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="382.5" cy="96.5" rx="24" ry="24"/>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="431.5" cy="215.5" rx="30" ry="30"/>
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```
  <text x="419.5" y="221.5" font-family="Times New Roman" font-size="20">Q4</text>
```

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  <ellipse stroke="black" stroke-width="1" fill="none" cx="290.5" cy="191.5" rx="30" ry="30"/>
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  <text x="278.5" y="197.5" font-family="Times New Roman" font-size="20">Q6</text>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="290.5" cy="191.5" rx="24" ry="24"/>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="444.5" cy="304.5" rx="30" ry="30"/>
```

```
  <text x="432.5" y="310.5" font-family="Times New Roman" font-size="20">Q7</text>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="444.5" cy="304.5" rx="24" ry="24"/>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="207.5" cy="231.5" rx="30" ry="30"/>
```

```
  <text x="195.5" y="237.5" font-family="Times New Roman" font-size="20">Q8</text>
```

```
  <ellipse stroke="black" stroke-width="1" fill="none" cx="207.5" cy="231.5" rx="24" ry="24"/>
```

<ellipse stroke="black" stroke-width="1" fill="none" cx="181.5" cy="395.5" rx="30" ry="30"/>
<text x="164.5" y="401.5" font-family="Times New Roman" font-size="20">Q10</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="191.5" cy="482.5" rx="30" ry="30"/>
<text x="174.5" y="488.5" font-family="Times New Roman" font-size="20">Q12</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="265.5" cy="535.5" rx="30" ry="30"/>
<text x="248.5" y="541.5" font-family="Times New Roman" font-size="20">Q14</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="265.5" cy="535.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="522.5" cy="277.5" rx="30" ry="30"/>
<text x="510.5" y="283.5" font-family="Times New Roman" font-size="20">Q5</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="522.5" cy="277.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="747.5" cy="304.5" rx="30" ry="30"/>
<text x="730.5" y="310.5" font-family="Times New Roman" font-size="20">Q19</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="325.5" cy="563.5" rx="30" ry="30"/>
<text x="308.5" y="569.5" font-family="Times New Roman" font-size="20">Q18</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="325.5" cy="563.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="240.5" cy="329.5" rx="30" ry="30"/>
<text x="228.5" y="335.5" font-family="Times New Roman" font-size="20">Q9</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="240.5" cy="329.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="353.5" cy="395.5" rx="30" ry="30"/>
<text x="336.5" y="401.5" font-family="Times New Roman" font-size="20">Q11</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="353.5" cy="395.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="337.5" cy="469.5" rx="30" ry="30"/>
<text x="320.5" y="475.5" font-family="Times New Roman" font-size="20">Q13</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="337.5" cy="469.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="422.5" cy="513.5" rx="30" ry="30"/>
<text x="405.5" y="519.5" font-family="Times New Roman" font-size="20">Q15</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="572.5" cy="513.5" rx="30" ry="30"/>
<text x="555.5" y="519.5" font-family="Times New Roman" font-size="20">Q16</text>

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<ellipse stroke="black" stroke-width="1" fill="none" cx="688.5" cy="469.5" rx="30" ry="30"/>
<text x="671.5" y="475.5" font-family="Times New Roman" font-size="20">Q17</text>
<ellipse stroke="black" stroke-width="1" fill="none" cx="688.5" cy="469.5" rx="24" ry="24"/>
<ellipse stroke="black" stroke-width="1" fill="none" cx="409.5" cy="583.5" rx="30" ry="30"/>
<text x="397.5" y="589.5" font-family="Times New Roman" font-size="20">Q3</text>
<polygon stroke="black" stroke-width="1" points="12.5,304.5 70.5,304.5"/>
<polygon fill="black" stroke-width="1" points="70.5,304.5 62.5,299.5 62.5,309.5"/>
<polygon stroke="black" stroke-width="1" points="130.033,309.774 210.967,324.226"/>
<polygon fill="black" stroke-width="1" points="210.967,324.226 203.971,317.898
202.213,327.742"/>
<text x="154.5" y="339.5" font-family="Times New Roman" font-size="20">(,)</text>
<polygon stroke="black" stroke-width="1" points="125.282,287.593 182.718,248.407"/>
<polygon fill="black" stroke-width="1" points="182.718,248.407 173.292,248.786
178.927,257.046"/>
<text x="159.5" y="288.5" font-family="Times New Roman" font-size="20">{,</text>
<path stroke="black" stroke-width="1" fill="none" d="M 104.811,274.846 A 180.38,180.38 0 0 1
302.151,136.452"/>
<polygon fill="black" stroke-width="1" points="302.151,136.452 294.808,130.529
293.61,140.457"/>
<text x="157.5" y="158.5" font-family="Times New Roman" font-size="20">N</text>
<path stroke="black" stroke-width="1" fill="none" d="M 86.926,277.775 A 209.6,209.6 0 0 1
409.275,31.388"/>
<polygon fill="black" stroke-width="1" points="409.275,31.388 406.056,22.52 399.893,30.396"/>
<path stroke="black" stroke-width="1" fill="none" d="M 97.999,274.633 A 197.105,197.105 0 0 1
354.704,85.291"/>
<polygon fill="black" stroke-width="1" points="354.704,85.291 348.591,78.106
345.567,87.638"/>
<text x="111.5" y="105.5" font-family="Times New Roman" font-size="20">[+,*,%]</text>
<path stroke="black" stroke-width="1" fill="none" d="M 108.973,275.776 A 147.215,147.215 0 0 1
261.215,185.232"/>
<polygon fill="black" stroke-width="1" points="261.215,185.232 253.806,179.391
252.719,189.332"/>

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<text x="109.5" y="196.5" font-family="Times New Roman" font-size="20">!,&lt;, &gt;,=</text>

<polygon stroke="black" stroke-width="1" points="120.446,326.909 161.554,373.091"/>

<polygon fill="black" stroke-width="1" points="161.554,373.091 159.97,363.791 152.5,370.44"/>

<text x="120.5" y="370.5" font-family="Times New Roman" font-size="20">&amp;</text>

<path stroke="black" stroke-width="1" fill="none" d="M 162.576,474.83 A 121.84,121.84 0 0 1
89.78,332.438"/>

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153.288,476.484"/>

<text x="88.5" y="434.5" font-family="Times New Roman" font-size="20">|</text>

<path stroke="black" stroke-width="1" fill="none" d="M 236.327,542.272 A 148.164,148.164 0 0 1
84.632,329.9"/>

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229.024,548.244"/>

<text x="85.5" y="501.5" font-family="Times New Roman" font-size="20"></text>

<path stroke="black" stroke-width="1" fill="none" d="M 300.396,579.856 A 171.76,171.76 0 0 1
80.795,327.071"/>

<polygon fill="black" stroke-width="1" points="300.396,579.856 290.984,579.21
295.692,588.033"/>

<text x="77.5" y="561.5" font-family="Times New Roman" font-size="20">-</text>

<path stroke="black" stroke-width="1" fill="none" d="M 458.297,38.275 A 22.5,22.5 0 1 1
458.297,64.725"/>

<text x="504.5" y="57.5" font-family="Times New Roman" font-size="20">N,L,</text>

<polygon fill="black" stroke-width="1" points="458.297,64.725 461.83,73.473 467.708,65.382"/>

<polygon stroke="black" stroke-width="1" points="211.5,395.5 323.5,395.5"/>

<polygon fill="black" stroke-width="1" points="323.5,395.5 315.5,390.5 315.5,400.5"/>

<text x="259.5" y="416.5" font-family="Times New Roman" font-size="20">&amp;</text>

<polygon stroke="black" stroke-width="1" points="221.382,479.839 307.618,472.161"/>

<polygon fill="black" stroke-width="1" points="307.618,472.161 299.206,467.89
300.093,477.851"/>

<text x="261.5" y="466.5" font-family="Times New Roman" font-size="20">|</text>

<path stroke="black" stroke-width="1" fill="none" d="M 457.063,35.847 A 210.297,210.297 0 0 1
757.182,276.132"/>

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<polygon fill="black" stroke-width="1" points="757.182,276.132 764.055,269.67
754.385,267.122"/>

<text x="690.5" y="49.5" font-family="Times New Roman" font-size="20">E</text>

<path stroke="black" stroke-width="1" fill="none" d="M 411.983,91.02 A 308.015,308.015 0 0 1
737.186,276.341"/>

<polygon fill="black" stroke-width="1" points="737.186,276.341 738.678,267.026
729.467,270.918"/>

<text x="610.5" y="119.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 360.473,135.183 A 22.5,22.5 0 1 1
354.931,161.046"/>

<text x="404.5" y="166.5" font-family="Times New Roman" font-size="20">N</text>

<polygon fill="black" stroke-width="1" points="354.931,161.046 356.553,170.34
363.996,163.661"/>

<polygon stroke="black" stroke-width="1" points="355.731,160.188 407.269,197.812"/>

<polygon fill="black" stroke-width="1" points="407.269,197.812 403.756,189.056
397.86,197.133"/>

<text x="371.5" y="199.5" font-family="Times New Roman" font-size="20">.</text>

<polygon stroke="black" stroke-width="1" points="456.293,232.392 497.707,260.608"/>

<polygon fill="black" stroke-width="1" points="497.707,260.608 493.911,251.972
488.281,260.236"/>

<text x="457.5" y="267.5" font-family="Times New Roman" font-size="20">N</text>

<path stroke="black" stroke-width="1" fill="none" d="M 524.947,247.717 A 22.5,22.5 0 1 1
547.627,261.326"/>

<text x="562.5" y="210.5" font-family="Times New Roman" font-size="20">N</text>

<polygon fill="black" stroke-width="1" points="547.627,261.326 556.946,262.797
553.033,253.594"/>

<path stroke="black" stroke-width="1" fill="none" d="M 361.006,137.117 A 401.721,401.721 0 0 1
729.405,280.58"/>

<polygon fill="black" stroke-width="1" points="729.405,280.58 728.216,271.222
720.472,277.548"/>

<text x="568.5" y="150.5" font-family="Times New Roman" font-size="20">E,L</text>

<polygon stroke="black" stroke-width="1" points="552.286,281.074 717.714,300.926"/>

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<polygon fill="black" stroke-width="1" points="717.714,300.926 710.366,295.008 709.175,304.937"/>

<text x="615.5" y="313.5" font-family="Times New Roman" font-size="20">E,L</text>

<path stroke="black" stroke-width="1" fill="none" d="M 461.237,211.594 A 381.783,381.783 0 0 1 724.173,285.649"/>

<polygon fill="black" stroke-width="1" points="724.173,285.649 720.745,276.859 714.77,284.878"/>

<text x="600.5" y="214.5" font-family="Times New Roman" font-size="20">E,L</text>

<polygon stroke="black" stroke-width="1" points="314.687,209.248 420.313,286.752"/>

<polygon fill="black" stroke-width="1" points="420.313,286.752 416.821,277.988 410.905,286.051"/>

<text x="372.5" y="239.5" font-family="Times New Roman" font-size="20">=</text>

<path stroke="black" stroke-width="1" fill="none" d="M 723.162,322.018 A 296.566,296.566 0 0 1 303.87,218.342"/>

<polygon fill="black" stroke-width="1" points="723.162,322.018 713.729,322.157 719.153,330.558"/>

<text x="445.5" y="383.5" font-family="Times New Roman" font-size="20">L,N,E</text>

<path stroke="black" stroke-width="1" fill="none" d="M 719.659,315.653 A 370.258,370.258 0 0 1 472.341,315.653"/>

<polygon fill="black" stroke-width="1" points="719.659,315.653 710.449,313.612 713.789,323.038"/>

<text x="571.5" y="357.5" font-family="Times New Roman" font-size="20">L,N,E</text>

<path stroke="black" stroke-width="1" fill="none" d="M 718.957,313.724 A 599.267,599.267 0 0 1 232.57,247.972"/>

<polygon fill="black" stroke-width="1" points="718.957,313.724 709.867,311.198 712.703,320.788"/>

<text x="455.5" y="355.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 718.434,311.926 A 1198.499,1198.499 0 0 1 270.155,334.031"/>

<polygon fill="black" stroke-width="1" points="718.434,311.926 709.482,308.95 711.836,318.669"/>

<text x="487.5" y="365.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 721.92,320.167 A 593.143,593.143 0 0 1 383.36,398.362"/>

<polygon fill="black" stroke-width="1" points="721.92,320.167 712.491,319.843 717.497,328.5"/>

<text x="558.5" y="406.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 722.281,320.744 A 680.398,680.398 0 0 1 210.54,403.02"/>

<polygon fill="black" stroke-width="1" points="722.281,320.744 712.847,320.664 718.076,329.188"/>

<text x="471.5" y="434.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 724.224,323.423 A 699.412,699.412 0 0 1 367.395,467.025"/>

<polygon fill="black" stroke-width="1" points="724.224,323.423 714.84,324.389 720.98,332.282"/>

<text x="560.5" y="441.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 725.191,324.554 A 678.821,678.821 0 0 1 221.308,485.87"/>

<polygon fill="black" stroke-width="1" points="725.191,324.554 715.866,325.979 722.385,333.561"/>

<text x="492.5" y="477.5" font-family="Times New Roman" font-size="20">M</text>

<polygon stroke="black" stroke-width="1" points="292.554,522.534 720.446,317.466"/>

<polygon fill="black" stroke-width="1" points="720.446,317.466 711.071,316.414 715.393,325.432"/>

<text x="511.5" y="441.5" font-family="Times New Roman" font-size="20">M</text>

<polygon stroke="black" stroke-width="1" points="295.21,531.337 392.79,517.663"/>

<polygon fill="black" stroke-width="1" points="392.79,517.663 384.174,513.822 385.562,523.725"/>

<text x="335.5" y="514.5" font-family="Times New Roman" font-size="20">*</text>

<path stroke="black" stroke-width="1" fill="none" d="M 451.698,506.681 A 266.02,266.02 0 0 1 543.302,506.681"/>

<polygon fill="black" stroke-width="1" points="543.302,506.681 536.282,500.378 534.56,510.229"/>

<text x="492.5" y="493.5" font-family="Times New Roman" font-size="20">*</text>


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<path stroke="black" stroke-width="1" fill="none" d="M 602.378,512.944 A 22.5,22.5 0 1 1
591.115,536.877"/>

<text x="640.5" y="558.5" font-family="Times New Roman" font-size="20">*</text>

<polygon fill="black" stroke-width="1" points="591.115,536.877 590.588,546.296
599.351,541.478"/>

<polygon stroke="black" stroke-width="1" points="600.55,502.86 660.45,480.14"/>

<polygon fill="black" stroke-width="1" points="660.45,480.14 651.197,478.302
654.743,487.652"/>

<text x="635.5" y="512.5" font-family="Times New Roman" font-size="20"></text>

<path stroke="black" stroke-width="1" fill="none" d="M 450.928,522.71 A 22.5,22.5 0 1 1
432.481,541.667"/>

<text x="476.5" y="581.5" font-family="Times New Roman" font-size="20">M</text>

<polygon fill="black" stroke-width="1" points="432.481,541.667 428.913,550.4
438.768,548.701"/>

<path stroke="black" stroke-width="1" fill="none" d="M 543.55,521.288 A 233.479,233.479 0 0 1
451.45,521.288"/>

<polygon fill="black" stroke-width="1" points="451.45,521.288 458.307,527.767
460.279,517.964"/>

<text x="488.5" y="546.5" font-family="Times New Roman" font-size="20">M</text>

<polygon stroke="black" stroke-width="1" points="698.601,441.252 737.399,332.748"/>

<polygon fill="black" stroke-width="1" points="737.399,332.748 729.997,338.598
739.414,341.965"/>

<text x="725.5" y="400.5" font-family="Times New Roman" font-size="20">M</text>

<path stroke="black" stroke-width="1" fill="none" d="M 749.651,334.407 A 271.553,271.553 0 0 1
351.192,578.959"/>

<polygon fill="black" stroke-width="1" points="749.651,334.407 744.784,342.489
754.783,342.324"/>

<text x="625.5" y="591.5" font-family="Times New Roman" font-size="20">E,L</text>

<polygon stroke="black" stroke-width="1" points="354.684,570.449 380.316,576.551"/>

<polygon fill="black" stroke-width="1" points="380.316,576.551 373.691,569.834
371.375,579.562"/>

<text x="351.5" y="595.5" font-family="Times New Roman" font-size="20">N</text>

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</svg>