Assignment#4 Key
C = B0
A = \lambda + C0 + A1 = \lambda + B00 + A1 = (\lambda + B00)1^*
B = A0 + C1 + B1 = (\lambda + B00)1^* + B01 + B1 = 1^*0 + B (001^*0 + 1 +01)
   = 1^*0 (001^*0 + 1 +01)^*
Assignment # 4.1 (State Ripping)
Assignment # 4.1 ($R_{ij}^k$)

\[
\begin{align*}
R_{11}^0 &= 1 \\
R_{21}^0 &= 0 \\
R_{31}^0 &= 0 \\
R_{11}^1 &= 1 \\
R_{21}^1 &= 0 \\
R_{31}^1 &= 01^* \\
R_{12}^0 &= 0 \\
R_{12}^1 &= 1*0 \\
R_{22}^0 &= \lambda + 1 \\
R_{22}^1 &= 5 + 1 \\
R_{32}^0 &= 1 + 01^*0 \\
R_{32}^1 &= 1 + 01^*0 \\
R_{13}^0 &= 0 \\
R_{13}^1 &= 0 \\
R_{23}^0 &= \lambda \\
R_{23}^1 &= \lambda \\
R_{33}^0 &= 1*01*0 \\
R_{33}^1 &= 0 + 1*0 = 1*0 \\
R_{33}^2 &= 2 + (1 + 01^*1)*0 \\
R_{12}^2 &= 1*01*0 \\
R_{22}^2 &= 1*01*0 \\
R_{32}^2 &= 1*01*0 \\
R_{12}^3 &= 1*01*0 + (1*01*0)(1 + 01^*0)(1^*0) + (1 + 01^*0) *
\end{align*}
\]
Assignment # 4.2 Key

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
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<tbody>
<tr>
<td>&gt;1</td>
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<td>3</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>4</td>
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<tr>
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<td>3,4</td>
<td>4,6X</td>
<td></td>
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<td>X</td>
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<td>2,3X</td>
<td>2,4X</td>
<td>X</td>
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<tr>
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<td>3,4</td>
<td>2,5X</td>
<td>1,4X</td>
<td>X</td>
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</tbody>
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New States: <1,6>, <2>, <3,4>, <5>