Directions: Work together on each problem; do not delegate different problems to different people. Submit one neatly written write-up per group. Remember to use complete sentences as appropriate and to show your work.

Fill out the table below according to the following rules:

1. Begin with one pair (one male and one female) of newborn (immature) rabbits.
2. It takes one month for rabbits to become sexually mature, at which time they are allowed to mate.
3. It takes one month for a pregnant rabbit to produce a new pair of rabbits, which we assume to be a male-female pair.
4. Each pair of rabbits is kept separate from all the other pairs.

<table>
<thead>
<tr>
<th>Month</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of mature rabbit pairs</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Number of immature pairs</td>
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<tr>
<td>Total number of pairs</td>
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</tbody>
</table>

Have you noticed a pattern? What is it? Explain.