1. q0, q2, q2, q3, q3, q3

q0, q0, q2, q2, q3, q3

1. Diagram

   Description automatically generated
2. {b, ba, bab, baba, babab, bababa, bababab, …}
3. NFA

|  |  |  |
| --- | --- | --- |
| State | a | b |
| q0 | ∅ | {q1,q2} |
| q1 | {q0,q2} | ∅ |
| +q2 | ∅ | ∅ |

|  |  |  |
| --- | --- | --- |
| State | a | b |
| q0 | ∅ | {q1,q2} |
| +{q1,q2} | {q0,q2} | ∅ |
| +{q0,q2} | ∅ | {q1,q2} |

DFA

1. Diagram

   Description automatically generated with medium confidence
2. Diagram

   Description automatically generated
3. Diagram

   Description automatically generated

NFA

|  |  |  |
| --- | --- | --- |
| State | a | b |
| q0 | {q0,q1} | q2 |
| q1 | q1 | q3 |
| q2 | q0 | q4 |
| q3 | q1 | q4 |
| q4 | q4 | q4 |

DFA

|  |  |  |
| --- | --- | --- |
| State | a | b |
| q0 | {q0,q1} | q2 |
| {q0,q1} | {q0,q1} | {q2,q3} |
| q2 | q0 | q4 |
| +{q2,q3} | {q0,q1} | q4 |
| +q4 | q4 | q4 |

1. Diagram

   Description automatically generated
2. NFA

|  |  |  |  |
| --- | --- | --- | --- |
| State | a | b | λ |
| q0 | ∅ | q1 | q1 |
| q1 | q2 | ∅ | ∅ |
| q2 | ∅ | q3 | ∅ |
| +q3 | q3 | ∅ | ∅ |

DFA

|  |  |  |
| --- | --- | --- |
| State | a | b |
| {q0,q1} | q2 | q1 |
| q1 | q2 | ∅ |
| q2 | ∅ | q3 |
| +q3 | q3 | ∅ |

Diagram

Description automatically generated

1. NFAA pair of glasses

   Description automatically generated with low confidence

NFA complementA picture containing text, watch

Description automatically generated