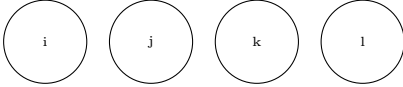
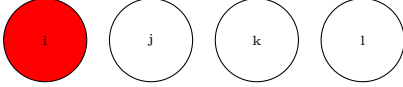
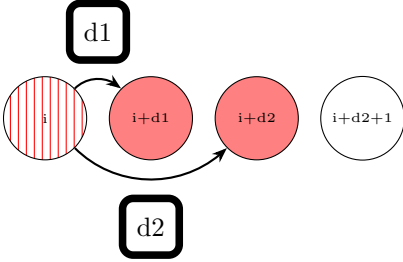
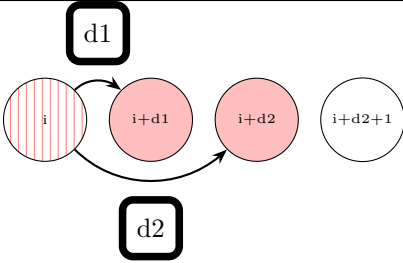


Move name	Move	Python list	Quantum array	Qiskit
Initialize		<code>board=[None] * 32</code>	i $ 0\rangle$ ——— j $ 0\rangle$ ——— k $ 0\rangle$ ——— l $ 0\rangle$ ———	<code>q = QuantumRegister(10, 'q')</code> <code>circuit = QuantumCircuit(q)</code>
New pawn		<code>board[i] = {</code> <code> 'color' : red,</code> <code> 'probability' : 1,</code> <code> 'pawn' : 1 }</code>	i ——— X ——— j ——— k ——— l ———	<code>circuit.x[q[i]]</code>
First move		<code>board[i] = None</code> <code>board[i+d1, i+d2] = {</code> <code> 'color' : red,</code> <code> 'probability' : 0.5,</code> <code> 'pawn' : 1 }</code>	i ——— X ——— $i + d1$ ——— \oplus ——— H ——— $i + d2$ ——— \oplus ——— H ———	<code>circuit.cx(q[i], q[i+d1])</code> <code>circuit.cx(q[i], q[i+d1])</code> <code>circuit.h(q[i+d1])</code> <code>circuit.h(q[i+d2])</code> <code>circuit.x(q[i])</code>
nth move		<code>board[i] = None</code> <code>board[i+d1, i+d2] = {</code> <code> 'color' : red,</code> <code> 'probability' : (1/2)ⁿ,</code> <code> 'pawn' : 1 }</code>	i ——— H ——— X ——— $i + d1$ ——— \oplus ——— H ——— $i + d2$ ——— \oplus ——— H ———	<code>circuit.h(q[i])</code> <code>circuit.cx(q[i], q[i+d1])</code> <code>circuit.cx(q[i], q[i+d1])</code> <code>circuit.h(q[i+d1])</code> <code>circuit.h(q[i+d2])</code> <code>circuit.x(q[i])</code>