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(31) Priority Document No	:NA	(72)Name of Inventor : 1)ADITYA
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(57) Abstract :

The present disclosure pertains to a method (300) and system (100) for implementing one or more Boolean functions. The method (300) includes trapping, at a single electron transistor (102), one or more electrons (104), where the single electron transistor (102) facilitates in trapping the one or more electrons (104) for measurement. The method (300) includes measuring, a spin movement (-1/2, +1/2) of the trapped one or more electrons (104) and changing, the spin movement of the one or more electrons (104) through a magnetic field. The method (300) includes converting, the spin movement value into a binary value, and implementing, one or more Boolean gate functions using the converted binary value and facilitates in performing quantum computing. The single electron transistor (102) is configured to receive a beam of silver atoms through the magnetic field. The system (100) is configured with Arithmetic Logic Unit (ALU) of a quantum processor, and facilitates in operating the quantum processor at room temperature without 0 Kelvin temperature.

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