**EXP. NO: 10**

**RIPPLE CARRY ADDER**

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**Aim:**

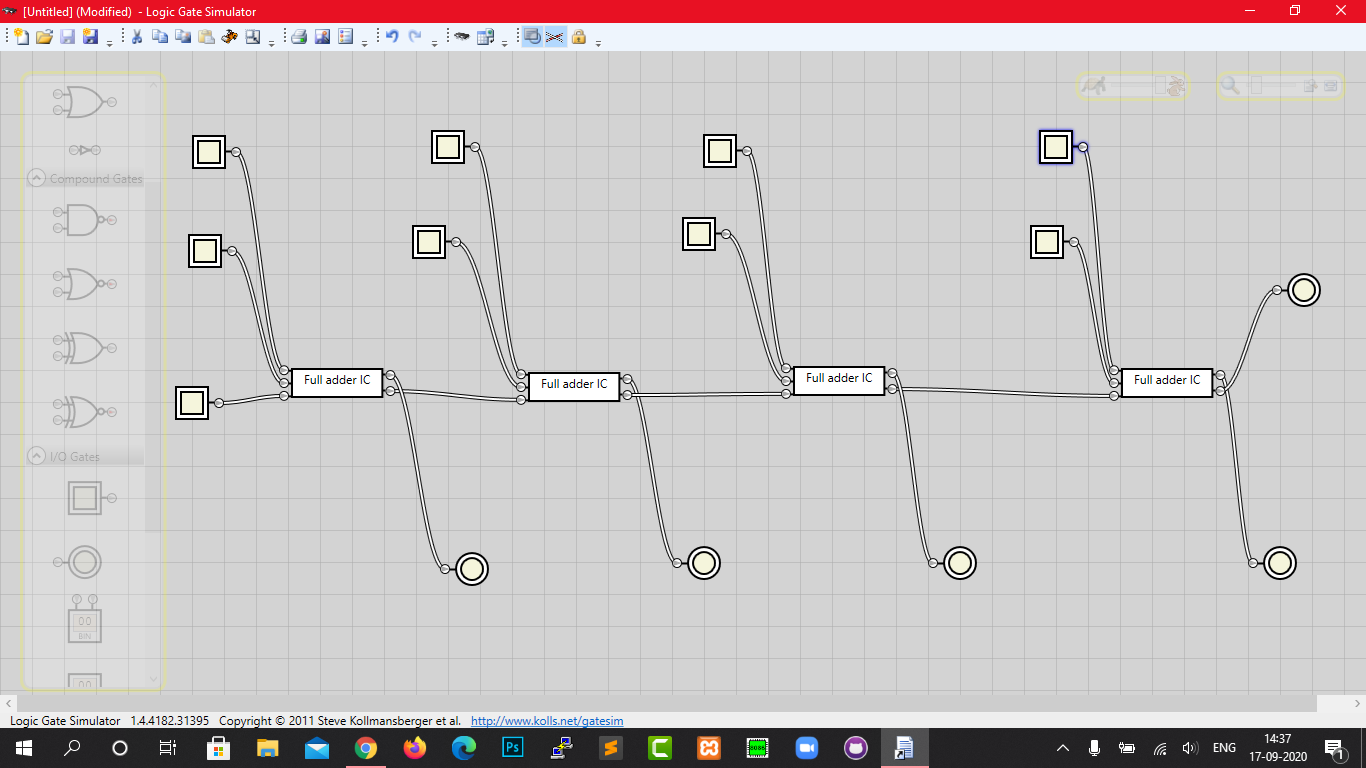
To design and implement a ripple carry adder

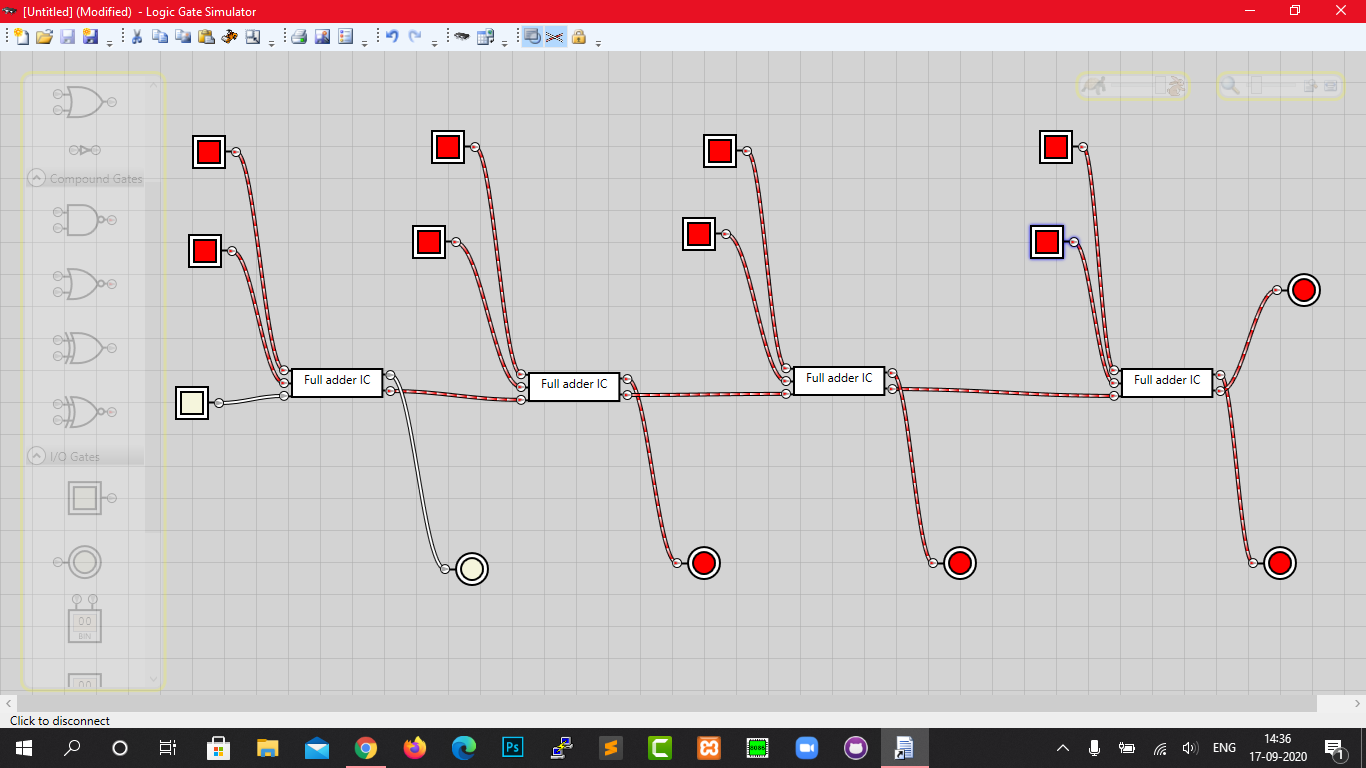
**Truth Table:**

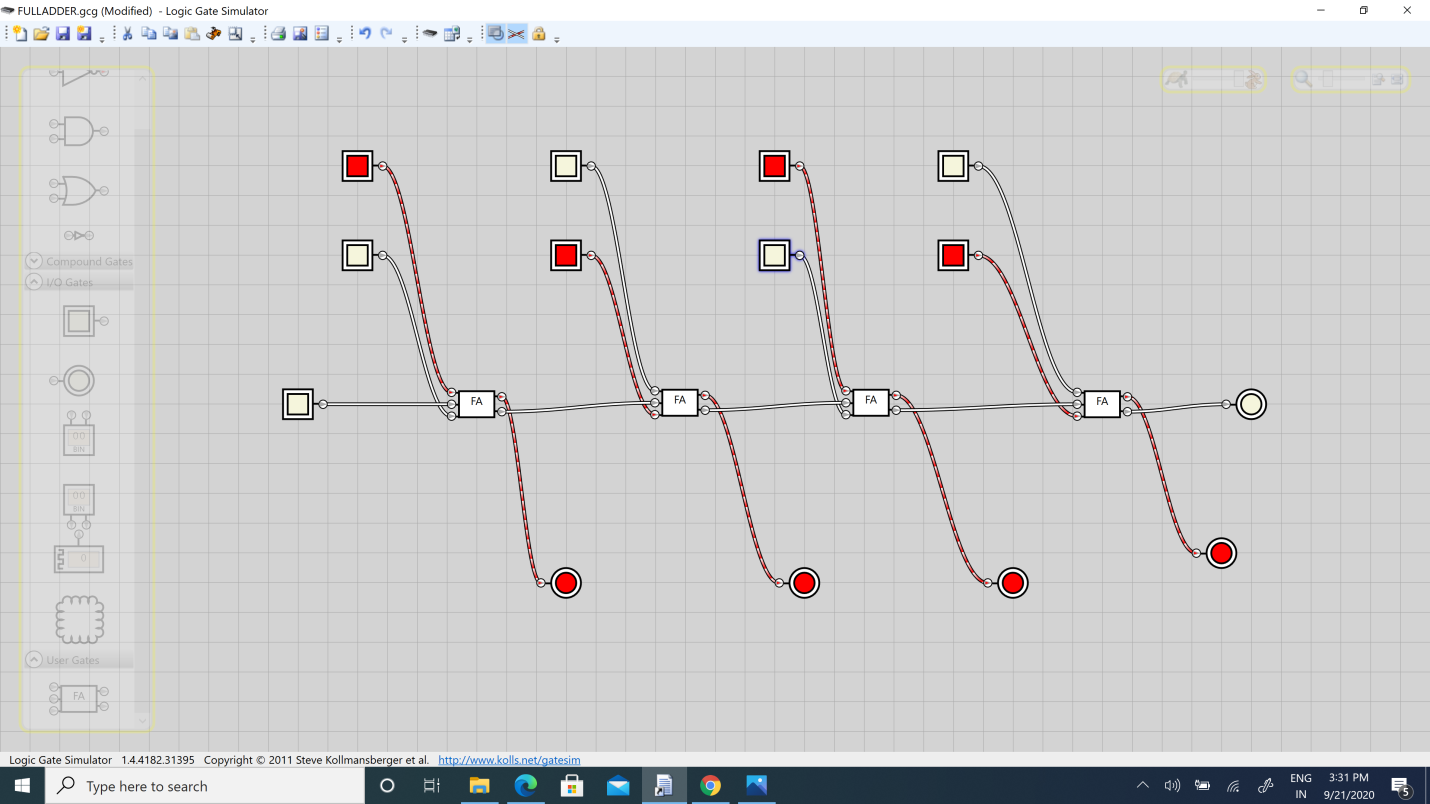
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A1** | **A2** | **A3** | **A4** | **B4** | **B3** | **B2** | **B1** | **S4** | **S3** | **S2** | **S1** | **CARRY** |
| **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **0** | **1** | **0** | **0** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **0** | **0** |
| **1** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** |
| **1** | **0** | **1** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **1** |
| **1** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **1** | **0** | **0** | **0** | **1** |
| **1** | **1** | **1** | **0** | **1** | **1** | **1** | **0** | **1** | **1** | **0** | **0** | **1** |
| **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **1** |

**Circuit Diagram:**

**Observation:**







***Result:***

***Hence, ripple carry adder was constructed in the simulator & its characteristics were studied.***