COT 3100 In-class Exercise 1

Name:

USF ID:

Create truth table for , , and to verify the exclusive or logic

* It tells whether two bits are unequal.
* It tells whether there is an [odd](https://en.wikipedia.org/wiki/Parity_(mathematics)) number of 1 bits as inputs.

|  |  |  |
| --- | --- | --- |
| p | q |  |
| T | T | F |
| **T** | **F** | **T** |
| **F** | **T** | **T** |
| F | F | F |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| p | q | r |  |  |
| **T** | **T** | **T** | **F** | **T** |
| T | T | F | F | F |
| T | F | T | T | F |
| **T** | **F** | **F** | **T** | **T** |
| F | T | T | T | F |
| **F** | **T** | **F** | **T** | **T** |
| **F** | **F** | **T** | **F** | **T** |
| F | F | F | F | F |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| p | q | r | s |  |  |  |
| T | T | T | T | F | T | F |
| **T** | **T** | **T** | **F** | **F** | **T** | **T** |
| **T** | **T** | **F** | **T** | **F** | **F** | **T** |
| T | T | F | F | F | F | F |
| **T** | **F** | **T** | **T** | **T** | **F** | **T** |
| T | F | T | F | T | F | F |
| T | F | F | T | T | T | F |
| **T** | **F** | **F** | **F** | **T** | **T** | **T** |
| **F** | **T** | **T** | **T** | **T** | **F** | **T** |
| F | T | T | F | T | F | F |
| F | T | F | T | T | T | F |
| **F** | **T** | **F** | **F** | **T** | **T** | **T** |
| F | F | T | T | F | T | F |
| **F** | **F** | **T** | **F** | **F** | **T** | **T** |
| **F** | **F** | **F** | **T** | **F** | **F** | **T** |
| F | F | F | F | F | F | F |