

デジタル回路 講義レジメ

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質問は、電子メールで気楽！にお願いします！

1) 講義のスタイルは 基本的には教科書に沿って、ホワイトボードに板書しながら、講義を進めます。

2) 講義ページにレジメを置きます。

3) デジタル回路に使われる素子 P9

半導体

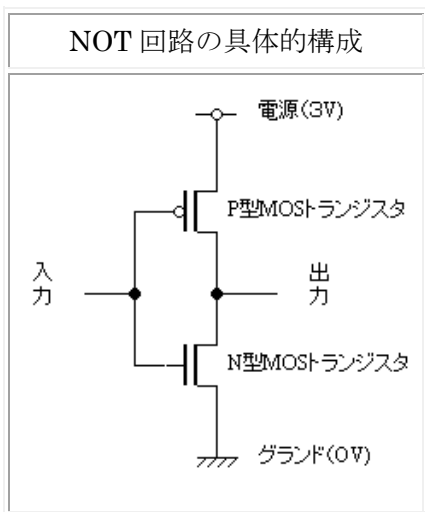
ダイオード (電子と正孔ホール)

MOS トランジスタ スイッチ

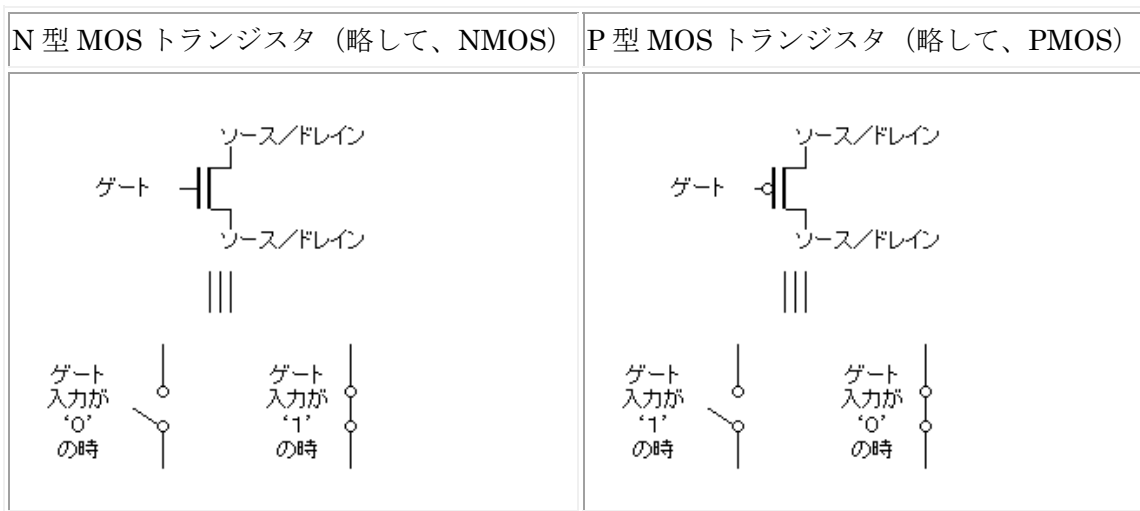
The image shows a screenshot of a periodic table application. The element Hydrogen (H) is selected, and its properties are displayed in a pop-up window. The properties include: Melting Point: -259, Boiling Point: -253, Density: 0.09, % in Earth Crust: 0.140, Year Discovered: 1776, Period: 1, Group: 1, Electron Config: 1s¹, Ionization Energy: 13.5984, Thermal Conductivity: 0.1815, Specific Heat Capacity: 14.304, Heat of Vaporization: 0.4581, First Ionization Potential: 13.598, Electronegativity: 2.1, Atomic Radius: 2.08, Atomic Volume: 14.1, Covalent Radius: 0.32, and Electrical Conductivity: *.

Below the periodic table, there is a graph titled "Standard Electron Orbital Configuration" showing the energy levels of the orbitals. The graph plots energy against the principal quantum number (n) and the orbital angular momentum quantum number (l). The orbitals are labeled as 1s, 2s, 2p, 3s, 3p, 3d, 4s, 4p, 4d, 4f, 5s, 5p, 5d, 5f, 6s, 6p, 6d, 6f, 7s, 7p, 7d, 7f, 8s, 8p, 8d, 8f, 9s, 9p, 9d, 9f, 10s, 10p, 10d, 10f, 11s, 11p, 11d, 11f, 12s, 12p, 12d, 12f, 13s, 13p, 13d, 13f, 14s, 14p, 14d, 14f, 15s, 15p, 15d, 15f, 16s, 16p, 16d, 16f, 17s, 17p, 17d, 17f, 18s, 18p, 18d, 18f, 19s, 19p, 19d, 19f, 20s, 20p, 20d, 20f, 21s, 21p, 21d, 21f, 22s, 22p, 22d, 22f, 23s, 23p, 23d, 23f, 24s, 24p, 24d, 24f, 25s, 25p, 25d, 25f, 26s, 26p, 26d, 26f, 27s, 27p, 27d, 27f, 28s, 28p, 28d, 28f, 29s, 29p, 29d, 29f, 30s, 30p, 30d, 30f, 31s, 31p, 31d, 31f, 32s, 32p, 32d, 32f, 33s, 33p, 33d, 33f, 34s, 34p, 34d, 34f, 35s, 35p, 35d, 35f, 36s, 36p, 36d, 36f, 37s, 37p, 37d, 37f, 38s, 38p, 38d, 38f, 39s, 39p, 39d, 39f, 40s, 40p, 40d, 40f, 41s, 41p, 41d, 41f, 42s, 42p, 42d, 42f, 43s, 43p, 43d, 43f, 44s, 44p, 44d, 44f, 45s, 45p, 45d, 45f, 46s, 46p, 46d, 46f, 47s, 47p, 47d, 47f, 48s, 48p, 48d, 48f, 49s, 49p, 49d, 49f, 50s, 50p, 50d, 50f, 51s, 51p, 51d, 51f, 52s, 52p, 52d, 52f, 53s, 53p, 53d, 53f, 54s, 54p, 54d, 54f, 55s, 55p, 55d, 55f, 56s, 56p, 56d, 56f, 57s, 57p, 57d, 57f, 58s, 58p, 58d, 58f, 59s, 59p, 59d, 59f, 60s, 60p, 60d, 60f, 61s, 61p, 61d, 61f, 62s, 62p, 62d, 62f, 63s, 63p, 63d, 63f, 64s, 64p, 64d, 64f, 65s, 65p, 65d, 65f, 66s, 66p, 66d, 66f, 67s, 67p, 67d, 67f, 68s, 68p, 68d, 68f, 69s, 69p, 69d, 69f, 70s, 70p, 70d, 70f, 71s, 71p, 71d, 71f, 72s, 72p, 72d, 72f, 73s, 73p, 73d, 73f, 74s, 74p, 74d, 74f, 75s, 75p, 75d, 75f, 76s, 76p, 76d, 76f, 77s, 77p, 77d, 77f, 78s, 78p, 78d, 78f, 79s, 79p, 79d, 79f, 80s, 80p, 80d, 80f, 81s, 81p, 81d, 81f, 82s, 82p, 82d, 82f, 83s, 83p, 83d, 83f, 84s, 84p, 84d, 84f, 85s, 85p, 85d, 85f, 86s, 86p, 86d, 86f, 87s, 87p, 87d, 87f, 88s, 88p, 88d, 88f, 89s, 89p, 89d, 89f, 90s, 90p, 90d, 90f, 91s, 91p, 91d, 91f, 92s, 92p, 92d, 92f, 93s, 93p, 93d, 93f, 94s, 94p, 94d, 94f, 95s, 95p, 95d, 95f, 96s, 96p, 96d, 96f, 97s, 97p, 97d, 97f, 98s, 98p, 98d, 98f, 99s, 99p, 99d, 99f, 100s, 100p, 100d, 100f, 101s, 101p, 101d, 101f, 102s, 102p, 102d, 102f.

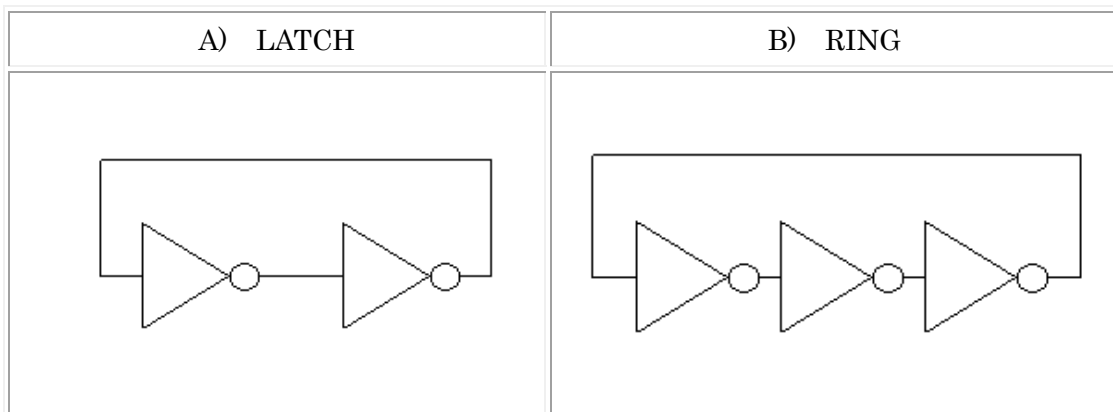
4) CMOS NOT ゲート P16



5) MOS (Metal Oxide Semiconductor) トランジスタ



6) リング発振回路 P26 と ラッチ回路



以上