exercise::04

Writing CSS Selectors

Overview ::
For this lab exercise, in groups of two write **CSS selectors** to apply formatting to the provided HTML page. This exercise only focuses on writing selectors—the visual formatting is already provided. As you write a valid and correct selector, the related CSS formatting will be applied to your HTML page. In the end, the whole page should look complete, with CSS properties and values applied to make the page look similar to the example on the back of this handout.

Process ::
First, open and **review the HTML file** to become familiar with the structure. It might be helpful to open the file in a web browser and use the *Inspect Element* options (right-click anywhere and select Inspect Element) to review the hierarchy of the HTML tags.

Then, using Nova or other plain-text editor, open the provided CSS file (`common/css/styles.css`) and a preview of the HTML file in a winder next to it. Read the selector descriptions within the comments of the CSS file, and **write CSS selectors** to control the presentation of this page. By the end of your work, the page should look identical to the screen shot on the back of this sheet.

Do NOT modify the HTML file or any other files in this local root folder—only modify the `styles.css` file.

Dates & Deliverables ::
When done, rename the folder for this exercise (`lastname_lastname_exercise04`) and place it in just one of your group member's shared Drop Box folder on Google Drive for this class.

This lab exercise is due by the end of class today.

Completed Example ::

Particle Physics
25 FEBRUARY 2019

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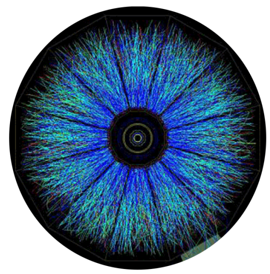
Understanding Particle Physics

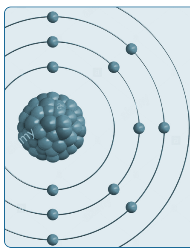
THE ATOM



An atom is the smallest constituent unit of ordinary matter that has the properties of a chemical element. Every solid, liquid, gas, and plasma is composed of neutral or ionized atoms. Atoms are extremely small; typical sizes are around 100 picometers (a ten-billionth of a meter, in the short scale).

Atoms are small enough that attempting to predict their behavior using classical physics – as if they were billiard balls, for example – gives noticeably incorrect predictions due to quantum effects. Through the development of physics, atomic models have incorporated quantum principles to better explain and predict this behavior.

Every atom is composed of a nucleus and one or more electrons bound to the nucleus. The nucleus is made of one or more protons and typically a similar number of neutrons. Protons and neutrons are called nucleons. More than 99.94% of an atom's mass is in the nucleus. The protons have a positive electric charge, the electrons have a negative electric charge, and the neutrons have no electric charge. If the number of protons and electrons are equal, that atom is electrically neutral. If an atom has more or fewer electrons than protons, then it has an overall negative or positive charge, respectively, and it is called an ion.



ANALYZING THE STRUCTURE

The electrons of an atom are attracted to the protons in an atomic nucleus by this electromagnetic force.

The protons and neutrons in the nucleus are attracted to each other by a different force, the nuclear force, which is usually stronger than the electromagnetic force repelling the positively charged protons from one another.

Under certain circumstances, the repelling electromagnetic force becomes stronger than the nuclear force, and nucleons can be ejected from the nucleus, leaving behind a different element: nuclear decay resulting in nuclear transmutation.

THE ELECTRON

The electron is a subatomic particle, symbol e− or β−, whose electric charge is negative one elementary charge. Electrons belong to the first generation of the lepton particle family, and are generally thought to be elementary particles because they have no known components or substructure. The electron has a mass that is approximately 1/1836 that of the proton. Quantum mechanical properties of the electron include an intrinsic angular momentum (spin) of a half-integer value, expressed in units of the reduced Planck constant, ħ.

As it is a fermion, no two electrons can occupy the same quantum state, in accordance with the Pauli exclusion principle. Like all elementary particles, electrons exhibit properties of both particles and waves: they can collide with other particles and can be diffracted like light. The wave properties of electrons are easier to observe with experiments than those of other particles like neutrons and protons because electrons have a lower mass and hence a longer de Broglie wavelength for a given energy.

Electrons play an essential role in numerous physical phenomena, such as electricity, magnetism, chemistry and thermal conductivity, and they also participate in gravitational, electromagnetic and weak interactions.[11] Since an electron has charge, it has a surrounding electric field, and if that electron is moving relative to an observer, it will generate a magnetic field. Electromagnetic fields produced from other sources will affect the motion of an electron according to the Lorentz force law.

Electrons radiate or absorb energy in the form of photons when they are accelerated. Laboratory instruments are capable of trapping individual electrons as well as electron plasma by the use of electromagnetic fields. Special telescopes can detect electron plasma in outer space. Electrons are involved in many applications such as electronics, welding, cathode ray tubes, electron microscopes, radiation therapy, lasers, gaseous ionization detectors and particle accelerators.