Name: Hager Mohamed Sadek Dweedar

B.N: 1014

Topic: Programming Languages

GitHub Link: https://github.com/hager-mohamed-74/ECE001

GitHub Pages: https://hager-mohamed-74.github.io/ECE001/

Programming languages and its Applications:

A programming language consists of a vocabulary containing a set of grammatical rules intended to convey instructions to a computer or computing device to perform specific tasks. Each programming language has a unique set of keywords along with a special syntax to organize the software's instructions. There are low-level and high-level programming languages which, although simple compared to human languages, are more complex than machine languages.

Low-level languages include assembly and machine languages. An assembly language contains a list of basic instructions and is much harder to read than a high-level language.

High-level languages, on the other hand, are designed to be easy to read and understand, allowing programmers to write source codes naturally, using logical words and symbols.

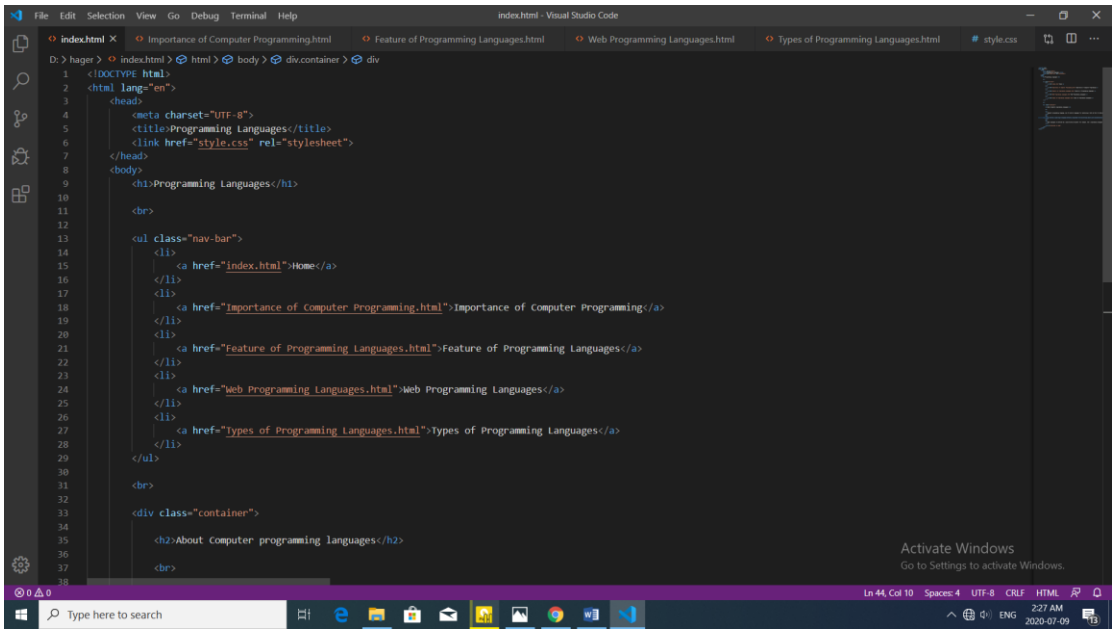
Throughout the evolution of computers, hundreds of different programming languages have been created for various types of development.

The field of programming is very wide, so the use of a particular language will depend on the objectives to be achieved. Logical, isn’t it?

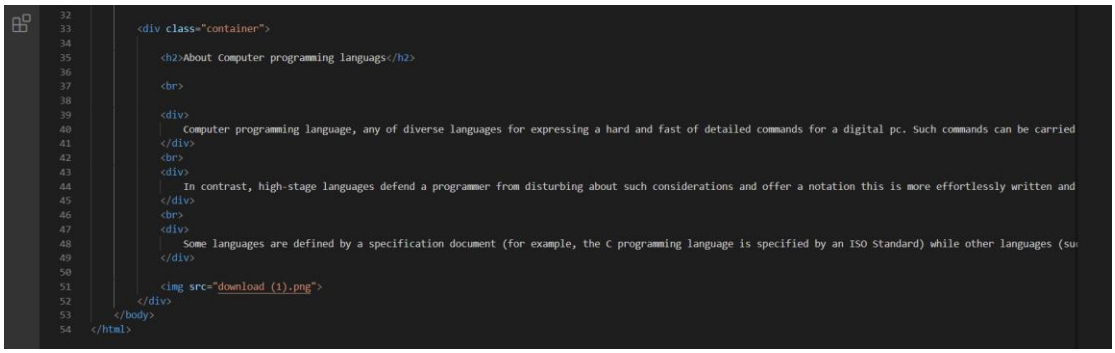
The following activities can be performed:

- Programs and applications development.
- Artificial intelligence development.
- Database development.
- Video game development.
- Development of drivers and hardware interface.
- Internet and web pages development.
- Script development.

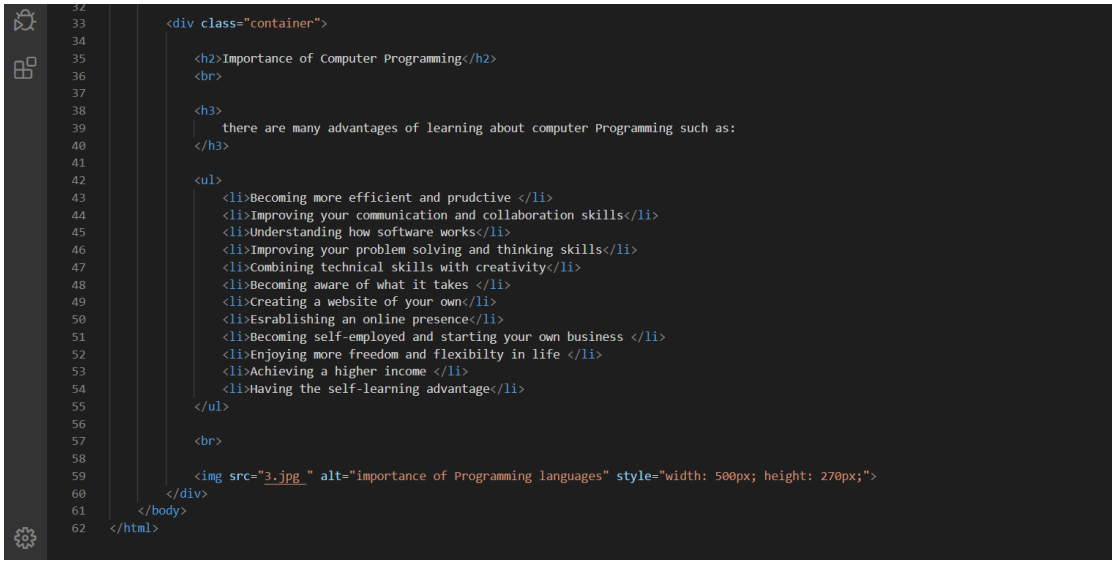
Source Code:



```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <title>Programming Languages</title>
        <link href="style.css" rel="stylesheet">
    </head>
    <body>
        <h1>Programming Languages</h1>

        <br>

        <ul class="nav-bar">
            <li>
                <a href="index.html">Home</a>
            </li>
            <li>
                <a href="Importance of Computer Programming.html">Importance of Computer Programming</a>
            </li>
            <li>
                <a href="Feature of Programming Languages.html">Feature of Programming Languages</a>
            </li>
            <li>
                <a href="Web Programming Languages.html">Web Programming Languages</a>
            </li>
            <li>
                <a href="Types of Programming Languages.html">Types of Programming Languages</a>
            </li>
        </ul>

        <br>

        <div class="container">

            <h2>About Computer programming languages</h2>

            <br>
```

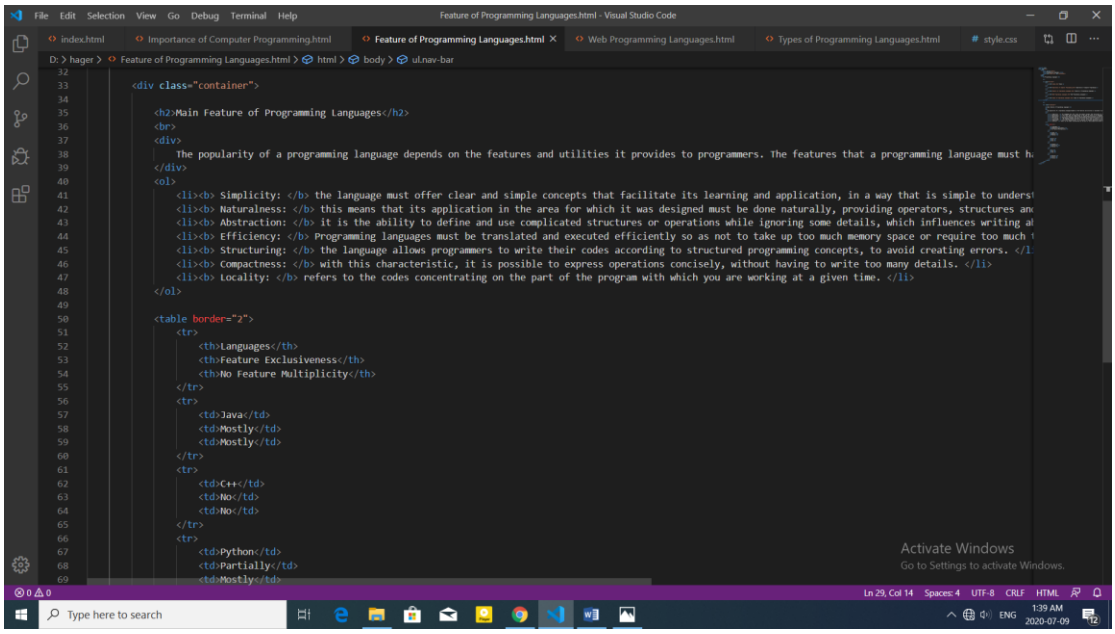


```
        <div class="container">

            <h2>About Computer programming languages</h2>

            <br>

            <div>
                Computer programming language, any of diverse languages for expressing a hard and fast of detailed commands for a digital pc. Such commands can be carried
            </div>
            <br>
            <div>
                In contrast, high-stage languages defend a programmer from disturbing about such considerations and offer a notation this is more effortlessly written and
            </div>
            <br>
            <div>
                Some languages are defined by a specification document (for example, the C programming language is specified by an ISO Standard) while other languages (su
            </div>

            <img src="download (1).png">
        </div>
    </body>
</html>
```

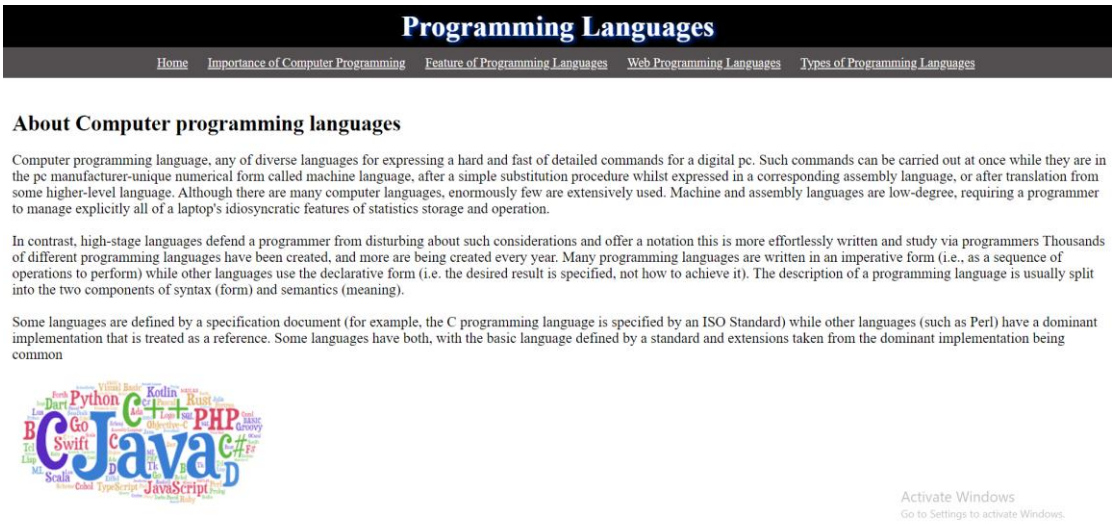


```
        <div class="container">

            <h2>Importance of Computer Programming</h2>
            <br>

            <h3>
                there are many advantages of learning about computer Programming such as:
            </h3>

            <ul>
                <li>Becoming more efficient and prudctive </li>
                <li>Improving your communication and collaboration skills</li>
                <li>Understanding how software works</li>
                <li>Improving your problem solving and thinking skills</li>
                <li>Combining technical skills with creativity</li>
                <li>Becoming aware of what it takes </li>
                <li>Creating a website of your own</li>
                <li>Esrablishing an online presence</li>
                <li>Becoming self-employed and starting your own business </li>
                <li>Enjoying more freedom and flexibilty in life </li>
                <li>Achieving a higher income </li>
                <li>Having the self-learning advantage</li>
            </ul>

            <br>

            <img src="3.jpg " alt="importance of Programming languages" style="width: 500px; height: 270px;">
        </div>
    </body>
</html>
```

```
            <table border="2">
                <tr>
                    <th>Programming Language</th>
                    <th>About it</th>
                </tr>
                <tr>
                    <td>Java</td>
                    <td>multipurpose language that adjusts efficiently to web development</td>
                </tr>
                <tr>
                    <td>Go</td>
                    <td>This is a general purpose, flexible language that facilitates the creation of applications</td>
                </tr>
                <tr>
                    <td>Ruby on Rails</td>
                    <td>allows you to design web applications quickly</td>
                </tr>
                <tr>
                    <td>Python</td>
                    <td>it works in a wide variety of contexts and on the web has technical advantages</td>
                </tr>
                <tr>
                    <td>JavaScript</td>
                    <td>it is on the client’s side and can be extended to the server for different functions</td>
                </tr>
            </table>

            <br> <br>

            <img src="web.png" alt="web-development languages" style="width: 460px; height: 250px;">
        </div>
    </body>
</html>
```



Screenshots:



Importance of Computer Programming

there are many advantages of learning about computer Programming such as:

- Becoming more efficient and prudctive
- Improving your communication and collaboration skills
- Understanding how software works
- Improving your problem solving and thinking skills
- Combining technical skills with creativity
- Becoming aware of what it takes
- Creating a website of your own
- Esrablishing an online presence
- Becoming self-employed and starting your own business
- Enjoying more freedom and flexibilty in life
- Achieving a higher income
- Having the self-learning advantage

Main Feature of Programming Languages

The popularity of a programming language depends on the features and utilities it provides to programmers. The features that a programming language must have to stand out are the following:

1. **Simplicity:** the language must offer clear and simple concepts that facilitate its learning and application, in a way that is simple to understand and maintain. Simplicity does not mean that it can be subtracted from the optimal power of functioning.
2. **Naturalness:** this means that its application in the area for which it was designed must be done naturally, providing operators, structures and syntax for operators to work efficiently.
3. **Abstraction:** it is the ability to define and use complicated structures or operations while ignoring some details, which influences writing ability.
4. **Efficiency:** Programming languages must be translated and executed efficiently so as not to take up too much memory space or require too much time.
5. **Structuring:** the language allows programmers to write their codes according to structured programming concepts, to avoid creating errors.
6. **Compactness:** with this characteristic, it is possible to express operations concisely, without having to write too many details.
7. **Locality:** refers to the codes concentrating on the part of the program with which you are working at a given time.

Languages	Feature Exclusiveness	No Feature Multiplicity
Java	Mostly	Mostly
C++	No	No
Python	Partially	Mostly
C	No	No
Pascal	Fully	Fully

Web Programming Languages

Web development can be done through different programming languages that allow you to build a site or design an application. Defining which is the best web programming language is complicated because it depends on several factors. However, the following options stand out:

Programming Language	About it
Java	multipurpose language that adjusts efficiently to web development
Go	This is a general purpose, flexible language that facilitates the creation of applications
Ruby on Rails	allows you to design web applications quickly
Python	it works in a wide variety of contexts and on the web has technical advantages
JavaScript	it is on the client's side and can be extended to the server for different functions