Introduction to ‘Programming’ {

[For Lawyers Workshop]

< Nelson Estevão >

}

Computer Program < /1 > {

< A computer program a sequence of instructions that a computer can interpret and execute. It may or may not require external input and give some sort of output. >

}

Programming Language < /2 > {

< Programming languages are the tools we use to write instructions for computers to follow. Computers “think” in binary – strings of 1s and 0s. Programming languages allow us to translate something that humans can understand and write in the 1s and 0s needed.>

}

cesium.py

elsa.py

High-level programming ‘Languages’{

Elixir

< A dynamic, functional language for building scalable >

Go

< A statically typed, compiled programming language designed at Google >

Python

< An object oriented programming language with emphases on emphasizes code readability >

Ruby

< An interpreted, high-level, general-purpose programming language with a focus on simplicity >

}

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cesium.py elsa.py

Code Sample Of ‘Python’;

```python
def hello(name = ‘World’):
    print(f’Hello, {name}!’)

hello(‘CeSIUM & ELSA’)
```

Mid-level programming ‘Languages’{

C

< By design, provides constructs that map efficiently to typical machine instructions >

C++

< Created as an extension of the C programming language, or "C with Classes" >

}

Code Sample Of ‘C’;

```c
#include <stdio.h>

int main(int argc, char** argv) {

  int index;

  for (index = 0; index < 10; index++) {
    printf("%d\n", index);
  }

  return 0;
}
```

Low-level programming ‘Languages’{

[01]

Machine Code

< Is a strictly numerical language which is designed to run as fast as possible >

[.ma]

Assembly

< Assembly language usually has one statement per machine instruction (1:1) >

}

Code Sample Of an ‘Assembly’;

```
main:
.LFB0:
    .cfi_startproc
    pushq    %rbp
    .cfi_def_cfa_offset 16
    .cfi_offset 6, -16
    movq    %rsp, %rbp
    .cfi_def_cfa_register 6
    subq    $32, %rsp
    movl    %edi, -20(%rbp)
    movq    %rsi, -32(%rbp)
    movl    $0, -4(%rbp)
```

cesium.py

elsa.py

Domain-Specific ‘Languages’ (DSL){

HTML

< Is the standard markup language for documents designed to be displayed in a web browser >

BASH

< An interactive login shell and as a command interpreter for shell scripting >

JavaScript

< One of the core technologies of the World Wide Web, alongside HTML and CSS >

SQL

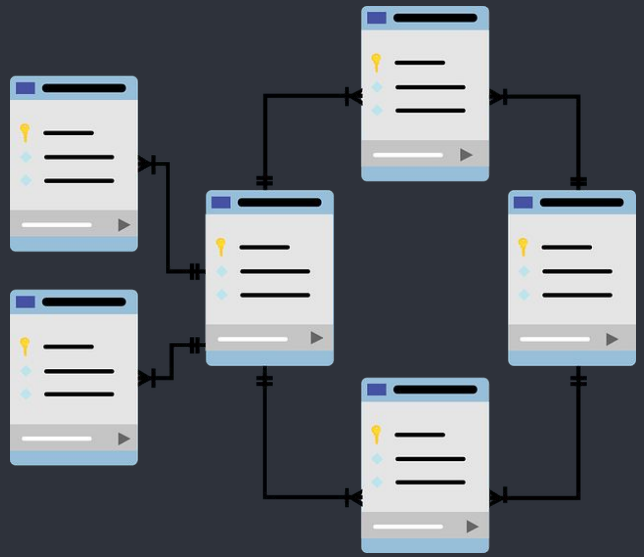
< Designed for managing data held in a relational database management system >

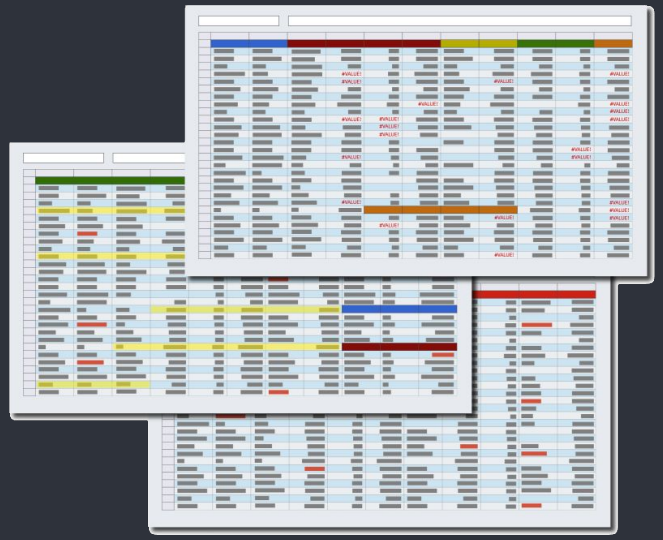
}

cesium.py

elsa.py

Databases vs Spreadsheets; {





}

cesium.py

elsa.py

SQL DEMO;

< with SQLite3 >

```
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11
12
13
14
```

DOWNLOAD

FROM

‘https://sqlite.org/’;

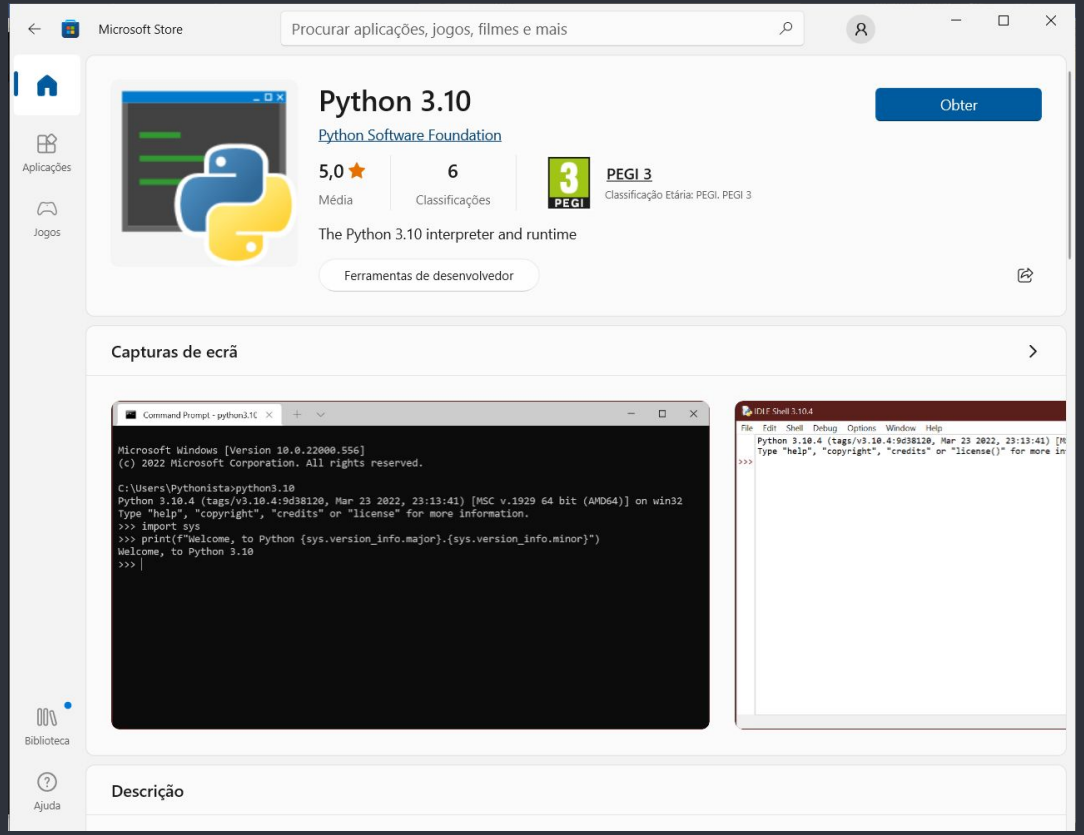
cesium.py

elsa.py

SQL + PYTHON DEMO;

cesium.py

elsa.py



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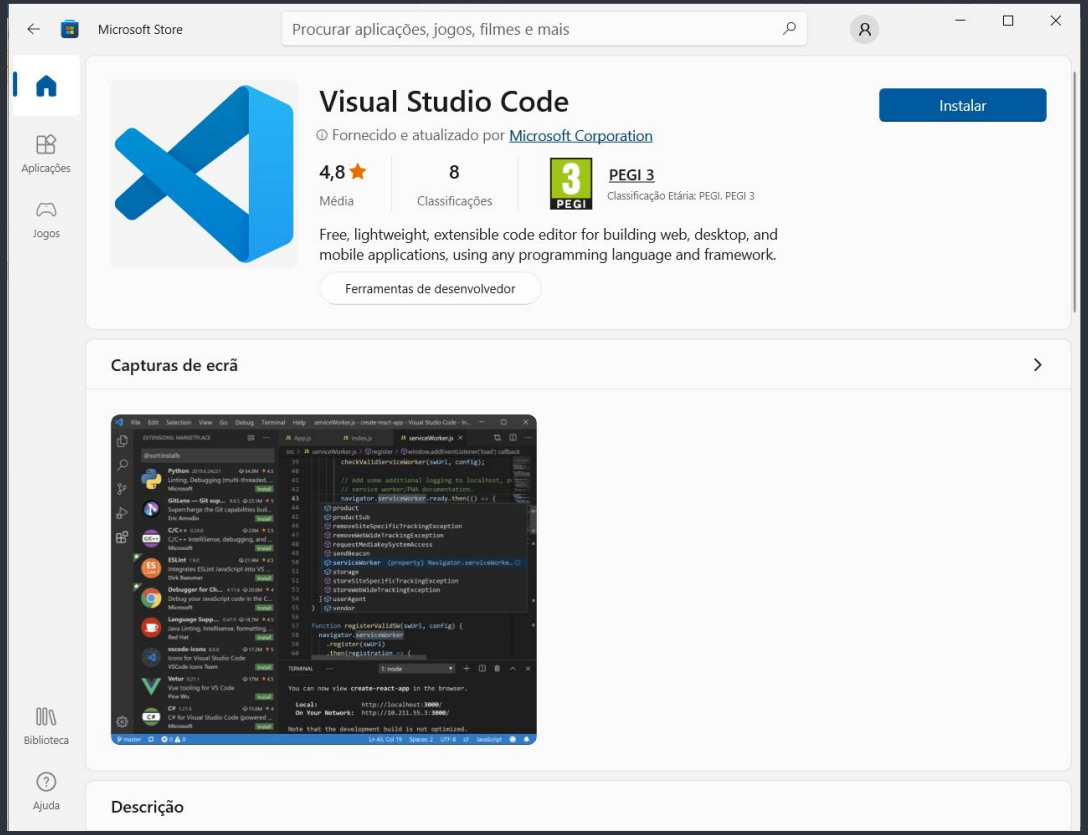
cesium.py

elsa.py



Introduction to Programming

cesium.py

elsa.py

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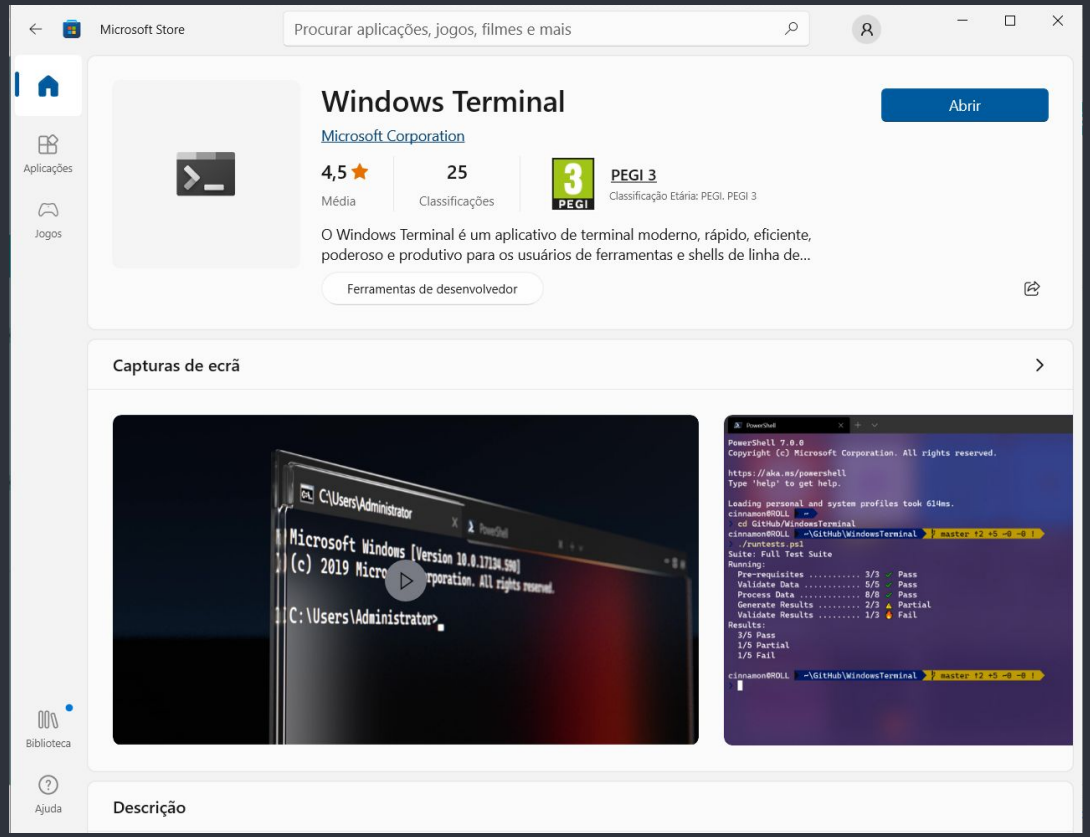

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