Both C and Python are high-level languages, and both need to be translated into machine code to execute.

In the table below, list 3 differences between the two languages. Also draw a simple diagram of the path from source code to program execution: **5pts**

|  |  |
| --- | --- |
| **C Program** | **Python Program** |
| No classes  Pointers  Small library of built in functions  C program > preprocessor > expanded source code > compiler > assembly code > assembler > object code > linker > executable code > loader > execution | Classes  No pointers  Large library of built in functions  Python program > compiler > byte code > virtual machine > execution |

You have learned how to program in C. Examine this simple program in C:

#include <stdio.h>

void main (int argc, char \*\*argv)

{

printf ("Hello World!\n");

}

1. Write the equivalent program using Python. **2pts**

#!/usr/bin/env python3

print(“Hello World!”)

**Questions** (show a screenshot for each of your answers if applicable)**:**

1. What version(s) of REPL were you able to launch in the steps above? **1pt**

**Python 3.8.5**

1. How can you return to the Linux terminal after finishing your testing in REPL? **1pt**

**Exit() or CTRL + D**

1. How do you know that you are in the interactive shell and not at the linux command prompt? **1pt**

**The prompt is different, instead of cole@cole-VirtualBox:~$ its >>>**

1. How do you exit the interactive help? **1pt**

**q**

1. Using **help** what function within the **list** class would you use to remove all items from the **list**? **5pts**

**clear(mylist)**

**mylist.clear**

mylist = [“Really”, 45, (“on top”, “bottom”, 12), 12.45, 12, 12]

|  |  |
| --- | --- |
| Functionality Required | List function used |
| 1. Get the number of times 12 is in the list | count(mylist, 12), mylist.count(12) |
| 1. Get the current position of the number 12.45 | index(mylist, 12.45), mylist.index(12.45) |
| 1. Reverse the order of the list | Reverse(mylist), mylist.reverse |
| 1. And the Word Property to the beginning of the list | insert(mylist, 0, “Property”), mylist.insert(0, “Property”) |
| 1. Remove the word Really from the list | remove(mylist, “Really”), mylist.remove(“Really”) |