UD02 exercises

1. Activities

1.1. Introduction

1. What is a compiler for? What kind of file do we get after compiling?
2. What is a linker for? What kind of file do we get after linking?
3. What is an interpreter for? Do we get any files after interpreting?
4. Explain each of the following concepts and indicate the relationship between them.
    - source code
    - object code
    - binary code
5. What kind of code is the bytecode generated by the Java compiler?

1.2. Development tools

1. Run the "Hello world" program in the following languages:
    - bash
    - python
    - php
    - javascript (nodejs)
    - c
    - c++
    - java
    - ruby
    - go
    - rust
    - lisp
    - assembler (nasm)

    The packages to install in Ubuntu are: python, php, nodejs, gcc, g ++, openjdk-8-jdk, ruby, golang, rustc, clisp and nasm.

    The source code for different programming languages is available at: https://es.wikipedia.org/wiki/Anex:Examples_de_implementaci%C3%B3n_del_%C2%ABHola_mundo%C2%BB

    Instructions at https://github.com/jamj2000/DAW1-ED-HolaMundo.

    For each of the previous languages, indicate the process carried out to get the code to execute: compilation or interpretation?

    For each of the above languages, indicate the name of the compiler or interpreter used in GNU/Linux.

    Investigate and find out the extension of the source code files of the following languages:

- bash
- python
- php
- javascript
- c
- c++
- java
- assembler
- ruby
- go
- rust
- lisp

2. Integrated development environments

1. Install the sublime text editor. Take a screenshot once installed.
2. Customize Sublime text by installing the most important plugins.

   Check the page https://www.genbetadev.com/desarrollo-web/10-packages-de-sublimetext-para-desarrolladores-web

   What is the Emmet plugin for? Make use of it when writing a test html file.
3. Install the Visual Studio Code editor. Take a screenshot once installed and running.
4. Make a comparison of the functionality offered by Sublime text and that offered by Visual Studio Code regarding the following aspects:
   - integrated terminal
   - emmet incorporado
   - icons for file types
   - keyboard shortcut for commenting (Ctrl + Shift + 7)
   - shortcut for search and select (Ctrl + D)
5. What basic packages should we install in Ubuntu to develop in Java?
6. Install the Netbeans integrated environment. Take a screenshot once installed and running.
7. Install the Eclipse integrated environment. Take a screenshot once installed and running.
8. Create a "Hello World" project in Java in Netbeans. Make its compilation and execution.
9. What build system does Netbeans use to generate the "executable" files? Look in the root directory of the project and examine which buildfile it uses from those seen in the topic.
10. Create a "Hello World" project in Java in Eclipse. Make its compilation and execution.
11. What build system does Eclipse use to generate the "executable" files? Look in the root directory of the project and examine which buildfile it uses from those seen in the topic.

3. Information sources

- Wikipedia
- Code&Coke (Fernando Valdeón)
- Apuntes IES El Grao (Mª Isabel Barquilla?)
- Apuntes IOC (Marcel García)
- Apuntes José Luis Comesaña
- Apuntes IES Luis Vélez de Guevara 17-18 (José Antonio Muñoz Jiménez)