Classification of Programming Languages

Websites for research

http://www.etechplanet.com/blog/classification-for-computer-languages.aspx

http://www.teach-ict.com/as_as_computing/ocr/H447/F453/3_3_6/types_language/miniweb/index.htm

Computer programming language can be classified into two major categories:

* Low Level Languages
* High Level Languages

High Level Languages

- All high level language is procedure-oriented language and is intended to be machine independent. Programs are written in statements similar to English language. That is, the high level languages use natural language like structures. These languages require translators (compilers and interpreters) for execution. The programs written in a high level language can be ported on any computer, that's why these languages are known as machine independent. Examples of the early high level languages are COBOL, BASIC, APL, etc.
- These languages enable the programmer to write instruction using English words and familiar mathematical symbols which makes it easier than technical details of the computer. It makes the programs more readable too.

Low Level Languages

- The languages which use only primitive operations of the computer are known as low language. In these languages, programs are written by means of the memory and registers available on the computer. Since the architecture of computer differs from one machine to another, so far each type of computer there is a separate low level programming language. In the other words, Programs written in one low level language of one, architectural can’t be ported on any other machine dependent languages. Examples are Machine Language and Assembly Language.

Assembly language

- Assembly languages are also known as second generation languages. These languages substitutes alphabetic or numeric symbols for the binary codes of machine language.

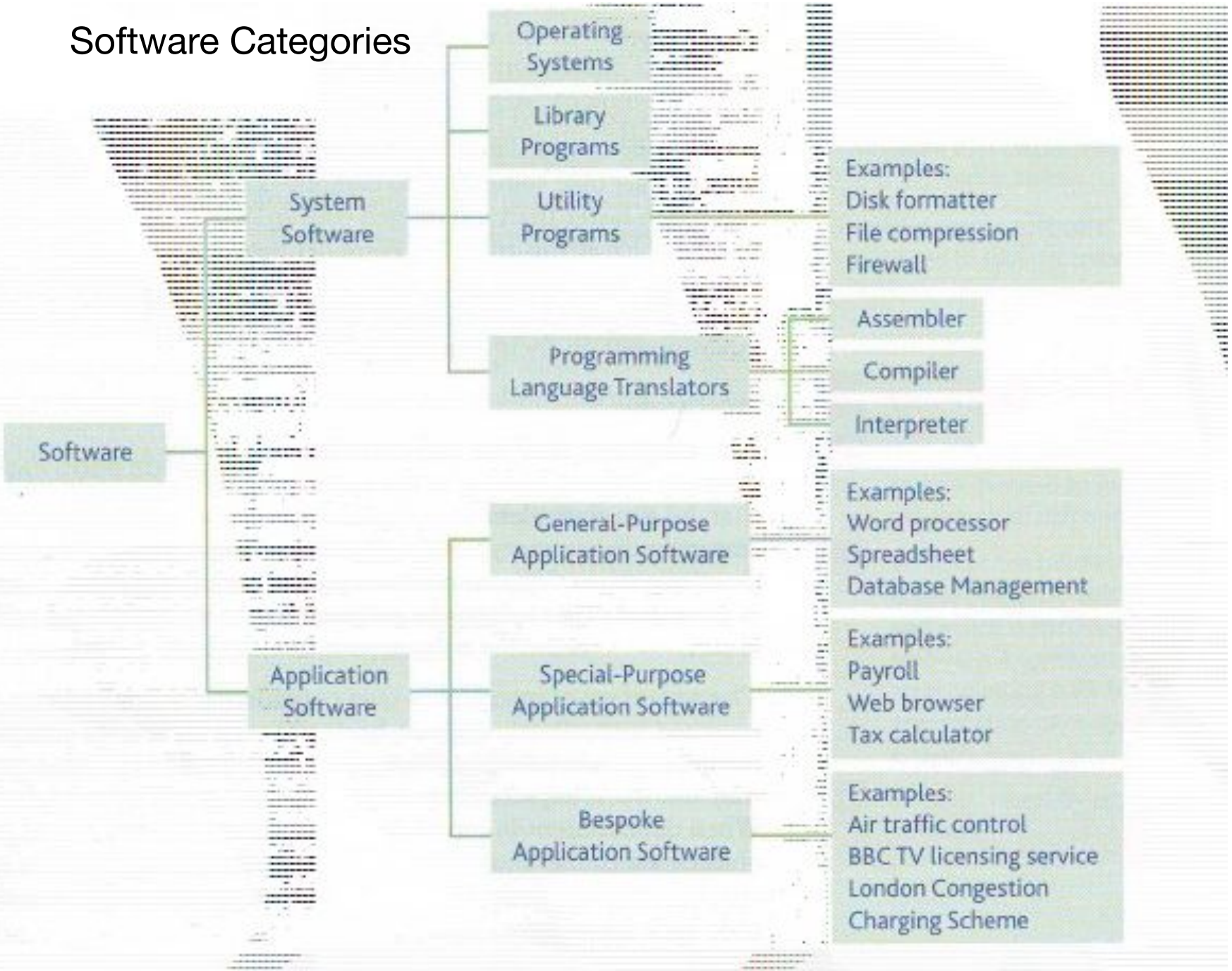
- These languages require a translator known as “Assembler” for translating the program code written in assembly language to machine language. Because computer can interpret only the machine code instruction, once the translation is completed the program can be executed.

Machine Language

- In machine language program, the computation is based on binary numbers. All the instructions including operations, registers, data and memory locations are given in there binary equivalent.

- The machine directly understands this language by virtue of its circuitry design so these programs are directly executable on the computer without any translations. This makes the program execution very fast. Machine languages are also known as first generation languages.

Software Categories



Activity

- Complete the following tasks in your own words using the information you have been given in addition to your own research.

1. Explain the difference, between high level and low level languages.
2. Explain the differences between compiled and interpreted languages?
3. Give the meanings of algorithmic, object oriented or procedural languages.
4. Research task: (See next slide) Identify the most suitable programming language for each application and justify your choice.
5. Make your own mind-map for the software categories.

Use the instructions from the previous slide to complete the table.

Application	Programming language	Justification
General Business Application		
Mathematics/Science		
Gaming		
Internet		

- http://life-prog.ru/
- http://www.teach-ict.com/gcse_computing/ocr/216_programming/programming_languages/miniweb/pg3.htm
- https://www.youtube.com/watch?v=rzZpwGB91DU
- http://www.http://www.студентик.рф/http://www.студентик.рф/node/47