UTN
Facultad Regional Córdoba

TUP

Tecnicatura Universitaria en Programación

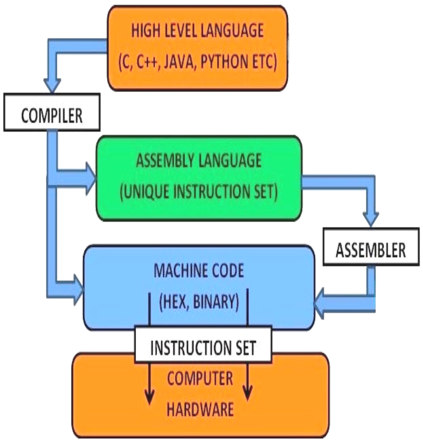
INGLÉS II

Unidad Temática N° 4:
Software

Actividad Complementaria III
1° Año – 2° Cuatrimestre

PROGRAMMING

Programming Languages



Programming is the process of writing a program using a computer language. A **program** is a set of instructions which a computer uses to do a specific task (e.g. a solution to a Maths problem).

The only language a PC can directly execute is machine code, which consists of 1s and 0s. This language is difficult to write, so we use symbolic languages that are easier to understand. For example, **assembly languages** use abbreviations such as ADD, SUB, MPY to represent instructions. The program is then translated into machine code by software called an **assembler**.

Machine code and assembly languages are called low-level languages because they are closer to the hardware.

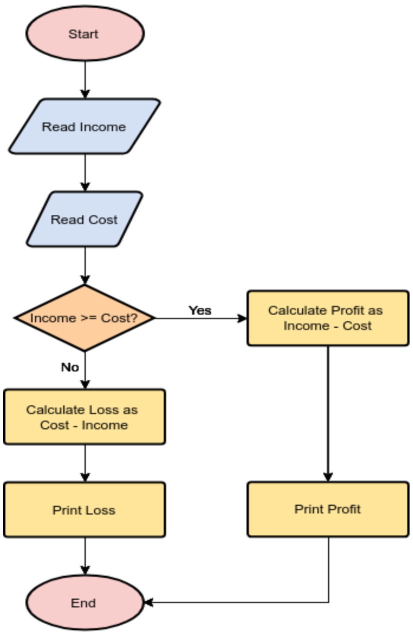
High-level languages, however, are closer to human languages; they use forms resembling English, which makes programming easier. The program is translated into machine code by software called a **compiler**. Some examples are:

- FORTRAN – used for scientific and mathematical applications
- COBOL – popular for business applications
- BASIC – used as a teaching language; Visual BASIC is now used to create Windows
- C – used to write system software, graphics and commercial programs
- Java – designed to run on the Web; **Java applets** are small programs that run automatically on web pages and let you watch animated characters, and play music and games.

The languages used to create Web documents are called **markup languages**; they use instructions (markups) to format and link text files. Examples are:

- **HTML** – the code used to create Web pages
- **YoiceXML** – it makes Internet content accessible via **speech recognition** and phone. Instead of using a web browser on a PC, you use a telephone to access voice -equipped websites. You just **dial** the phone number of the website and then give spoken instructions, **commands**, and get the required information.

Steps in Writing a Program



To write a program, software developers usually follow these steps.

- First, they try to understand the problem and define the purpose of the program.
- They design a **flowchart**, a diagram which shows the successive logical steps of the program.
- Next, they write the instructions in a high-level language (Pascal, C, etc.). This is called **coding.** The program is then compiled.
- When the program is-written, they **test** it: they run the program to see if it works and use special tools to detect **bugs**, or errors. Any errors are corrected until it runs smoothly. This is called **debugging**, or bug fixing.
- Finally, software companies write a detailed description of how the program works, called **program documentation**. They also have a **maintenance** program. They get reports from users about any errors found in the program. After it has been improved, it is published as an updated version.

1. Match the terms from section A above with their definitions.

1. Programming 2. Machine code 3. Assembly language 4. High-level language 5. Java applet 6. Compiler 7. Markup language	a. Basic language which consists of binary codes b. Programming language such as C, Java or Visual BASIC c. Writing computer programs d. Low-level language translated into machine code by an assembler e. Software which converts a source program into machine code f. Language used to create and format documents for the Web g. Small self-contained program written in Java

2. Look at section B above and then put these programming steps into the correct order.

Document and maintain the program

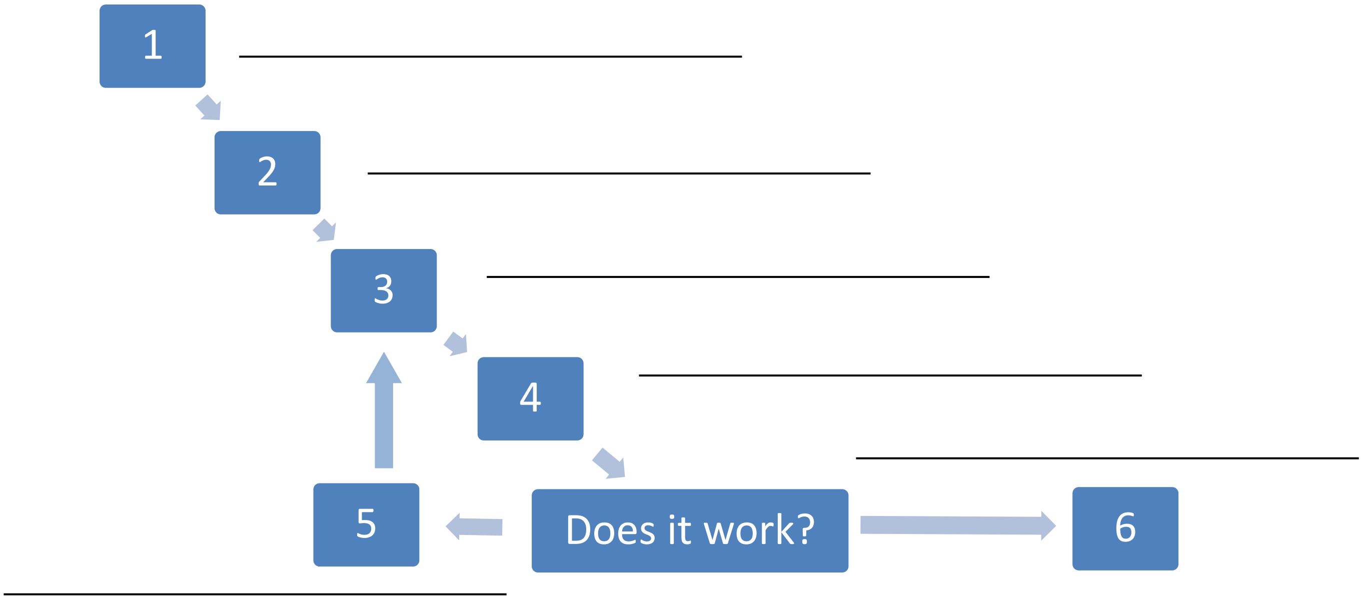
Test the program and detect bugs

Make flowchart

Write code and compile

Analyze the problem

Debug and correct if necessary



3. **Complete this article about the *VoiceXML* application language with the words form the box.**

HTML dial VoiceXML commands
speech recognition

Internet: Voice recognition takes off

You don´t need a sophisticated cell phone to surf the Internet when you´re on the road – just your own voice. That's the idea behind a new breed of voice service that is popping up all over the place. Subscribers (1(____________________ a toll-free phone number and use spoken (2(________________________________ to listen to anything from weather conditions to stock quotes, or light information to news stories. Half a dozen of these services – such as Audiopoint, BeVocal, TellMe and TelSurf Networks have already gone live or are testing their systems.

These launches are all happening because two crucial technologies have come of age. (3) ____________________ software from companies such as Lucent, Nuance and Speechworks can now understand a wide range of accents and diction without having to be trained to a specific voice. And computer languages such as

VoiceXML make it as easy to write voice services as (4) ______________________________ has made it to write web pages. With (5) ____________________, the humans voice becomes a substitute for a computer mouse and the spoken command for a click. It doesn't, however, call up conventional web pages, but content which is especially composed for a telephone: sound clips, numbers, music, spoken texts.

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Bibliografía

Marco Fabré, E. & S. Remacha Esteras. (2007). *Professional English in Use ICT* (Intermediate to Advanced). Cambridge, UK. Cambridge University Press.