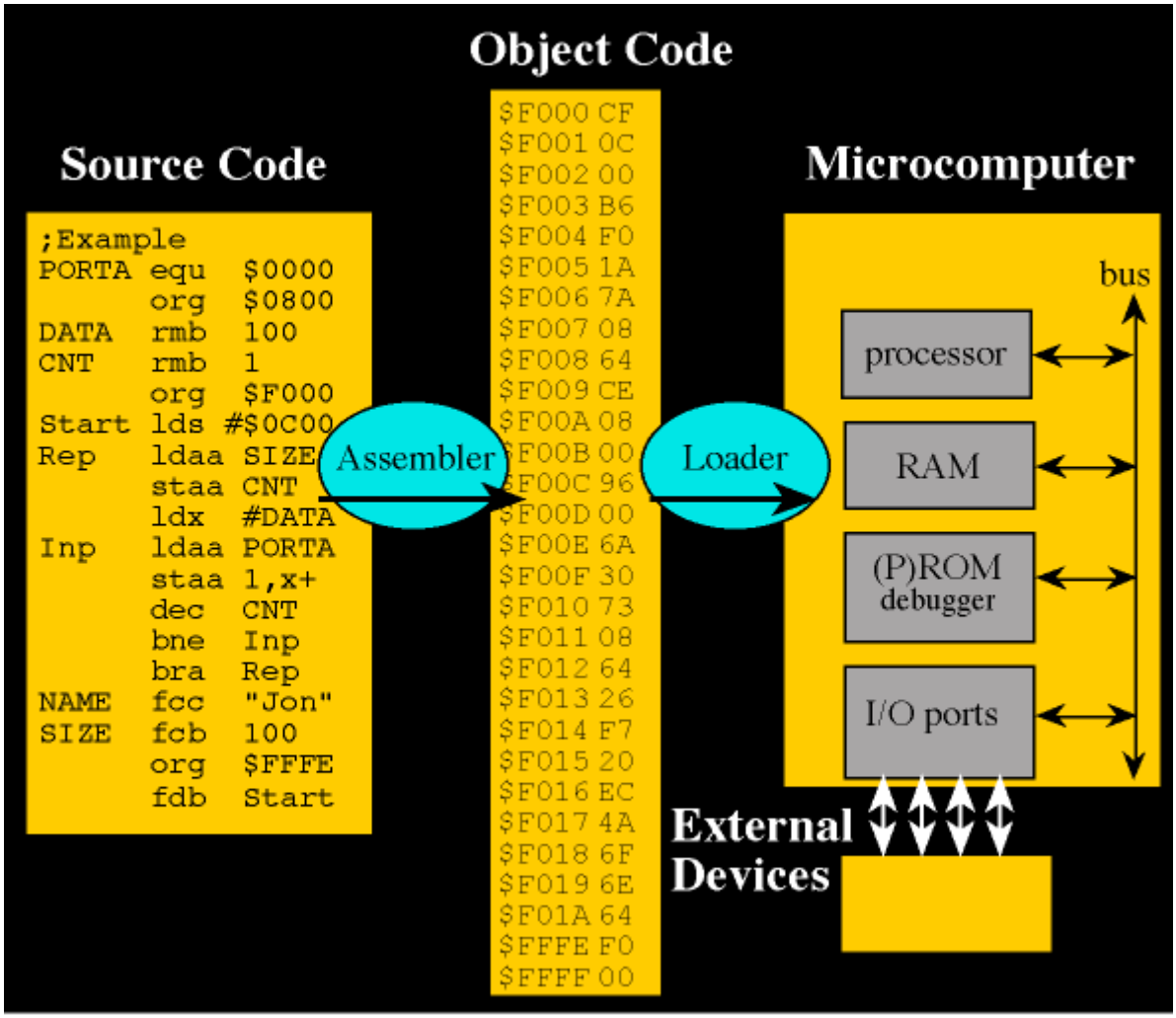
Assembly or assembler languages are low level programming languages intended for a computer or any other device which is programmable. Such languages are abbreviated as ‘asm’ and there is usually a very close link between the language and the machine code instructions of the architecture.

Each assembly language corresponds to only one computer – that is, there is a high degree of specificity in case of assembly languages. This makes assembly languages quite unlike most of the high-level languages as they cannot be used on a variety of computers whereas high level languages are mostly portable. Assembly languages are often referred to as ‘symbolic machine codes’.



History of Assembly Language

The history of assembly languages is closely mingled with that of the stored-program computer. When the Electronic Delay Storage Automatic Calculator (EDSAC) was incorporated with an assembler, ‘initial orders’, which used one letter mnemonics in 1949. Stan Poley wrote the Symbolic Optimal Assembly Program or SOAP assembly language for the IBM 650 computer in 1955.

Assembly languages started being used widely as they relieved the programmers from tedious tasks such as remembering numeric codes. Their use, however, was reduced substantially by the 1980’s due to the introduction of high-level languages.

Throughout the course of history, many programs have been written completely in assembly language. This trend was changed with the introduction of the Burroughs MCP in 1961, which was written in ESPOL, a dialect of Algol. In addition, many commercial applications were also written using assembly languages, such as large amounts of IBM mainframe software.

Microcomputers, in their initial stages, depended mostly on hand-coded assembly languages. This was due to a lack of high level language compilers meant for use on microcomputers. Another reason for the se of assembly languages at that time was the fact that they came with many advantages, such as minimum size, high speed, less overhead and high reliability.

During this period, many large programs were written in assembly languages, including the Lotus 1-2-3 and IBM PC DOS operating systems. Many video games were also written in assembly languages, even during the 1990s. The game NBA Jam, is one such game of that time (1993).

Most computers of the period 1980-90s were developed primarily using assembly languages. Examples include the Atari ST and the MSX systems of that time. The VIC 20 system had an assembler written by Don French and published by French Silk. Don claimed that it was the smallest assembler ever created.