Key Point: *Computer* programs*, known as software, are instructions that tell a computer what to do.*

- Computers do not understand human languages, so programs must be written in a language that a computer can use. Computers cannot follow instructions given in a high level language directly: the instructions must be translated to the machine language that a computer can understand.

1.3.1 Machine Language

Term	**Definition**
Machine Language	Machine language is the language understood by a computer. Machine language is entirely composed of binary strings. For example a particular computer might be instructed to find the sum of two numbers by executing this instruction: 1101101010011010

1.3.2 Assembly Language

Term	Definition
Assembly Language	There is a direct and immediate correspondence between assembly language and machine language. Assembly language assigns mnemonics to instruction operation codes, registers, and other values. Also many numeric values are expressed in decimal rather than binary.

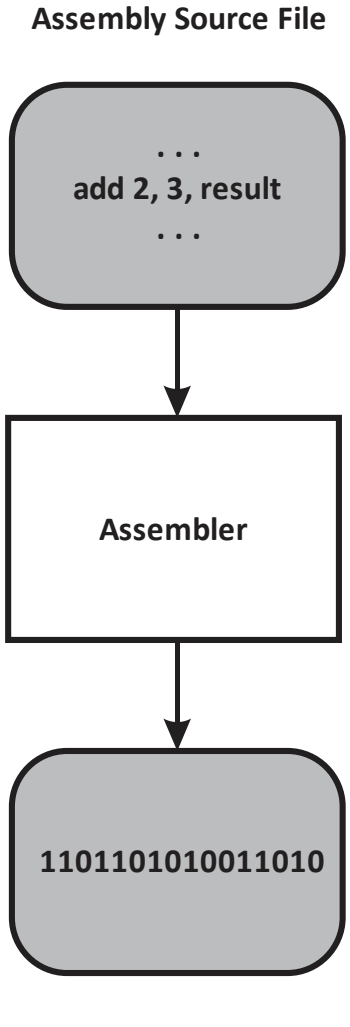

Figure 1.8 An assembler translates assembly-language instructions into machine code

1.3.3 High Level Language

Term	**Definition**
High Level Language	High Level Languages permit programmers to specify instruction with a higher level of abstraction than either assembly or machine languages. For example, expressions and assignment employ a notation very similar to that commonly used in mathematics.

area **= 5*5*3.14159**