

# Compilation's stages

## Lexical analysis

Comments and unnecessary spaces are removed.

Keywords, constants and identifiers are replaced by 'tokens', which are symbolic strings to identify what the elements are.

## Symbol table construction

A table stores the names and addresses of all variables, constants and arrays.

Variables are checked to make sure they have been declared and to determine the data types used.

## Syntax analysis

Tokens are checked to see if they match the syntax of the programming language.

If syntax errors are found, error messages are produced.

## Semantic analysis

Variables are checked to make sure they have been correctly declared and contain the correct data type.

Operations are checked to ensure that they are appropriate for the type of variable being used.

## Code generation

Machine code is generated in this stage.

## Optimization

Code optimization makes the program more efficient so it runs faster and uses fewer resources.

# Programming levels

## **Introductory**

Content is designed for psychologists who have little or no experience in a particular skill or content. This level of programming allows students to become familiar with the theoretical foundations, principles, methods and perspectives of the content area. Elementary level programs can also serve as a foundation for future high school and advanced learning. Entry-level programs may vary by area of specialization or practice. While this content can serve as a foundation for advanced learning, elementary level programs may simply focus on expanding, deepening, or general knowledge.

## **Intermediate**

Intermediate programs build students' basic knowledge of the content. Medium-sized programming goes much deeper than what start-up programs do. Educational programs can help students become familiar with literature and / or experience. Programming can help students understand the applications and limitations of theoretical and applied skills. Medium programming can also focus on technology integration. The program can also serve as a review course for those who have a background in content and want to learn more about modern applications.

## **Advanced**

Advanced CE program content builds on experience, knowledge and skills developed in the content field. This may include more diverse applications for specific people or new skills application. Advanced level programs allow students to hone their knowledge and skills in the field of content and learn to use them effectively in challenging situations. Content and teaching curriculum are tailored to the needs of students who have the knowledge, experience and skills in the field of content. Advanced level programming is highly specialized in nature and allows

students to integrate and enhance their knowledge and skills in their practice or other professional areas.

### **References**

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