



合肥大學  
HEFEI UNIVERSITY



# Programming with Python

## Introduction

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人工智能与大数据学院  
合肥大学  
中国安徽省合肥市

# Programming with Python



This is a course on programming with the Python language at Hefei University (合肥大学).

The website with the teaching material of this course is <https://thomasweise.github.io/programmingWithPython> (see also the QR-code at the bottom right). There, you can find the course book and these slides. The repository with the example Python programs can be found at <https://github.com/thomasWeise/programmingWithPythonCode>.



# Outline



1. Introduction
2. Programming vs. Software Development
3. Why Python?
4. Summary





# Introduction



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- This course aims to teach you programming using the programming language Python.





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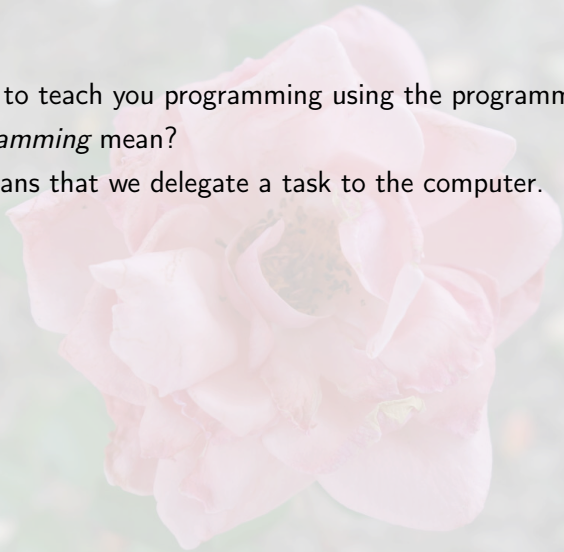
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- So we want that the computer does it for us.

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- In this book, you will learn to do the same — with computers.





# Programming vs. Software Development





## Definition 1: Computer Program

A *computer program* is an unambiguous sequence of computational instructions for a computer to achieve a specific goal.

## Definition 2: Programming

*Programming* is the activity or job of writing computer programs<sup>19</sup>.



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- Maybe you go to the hairdresser again and want to say: “Same as usual, but today color it blue.”



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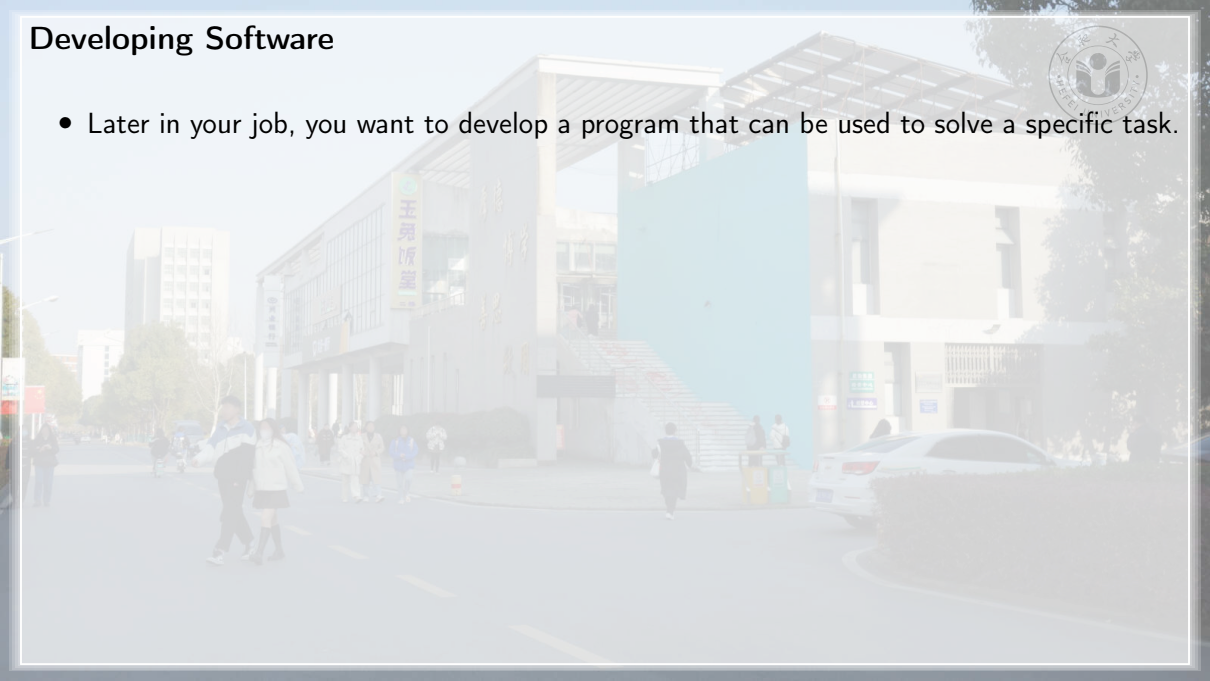


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- Therefore **programming is only one part of software development.**

# Developing Software



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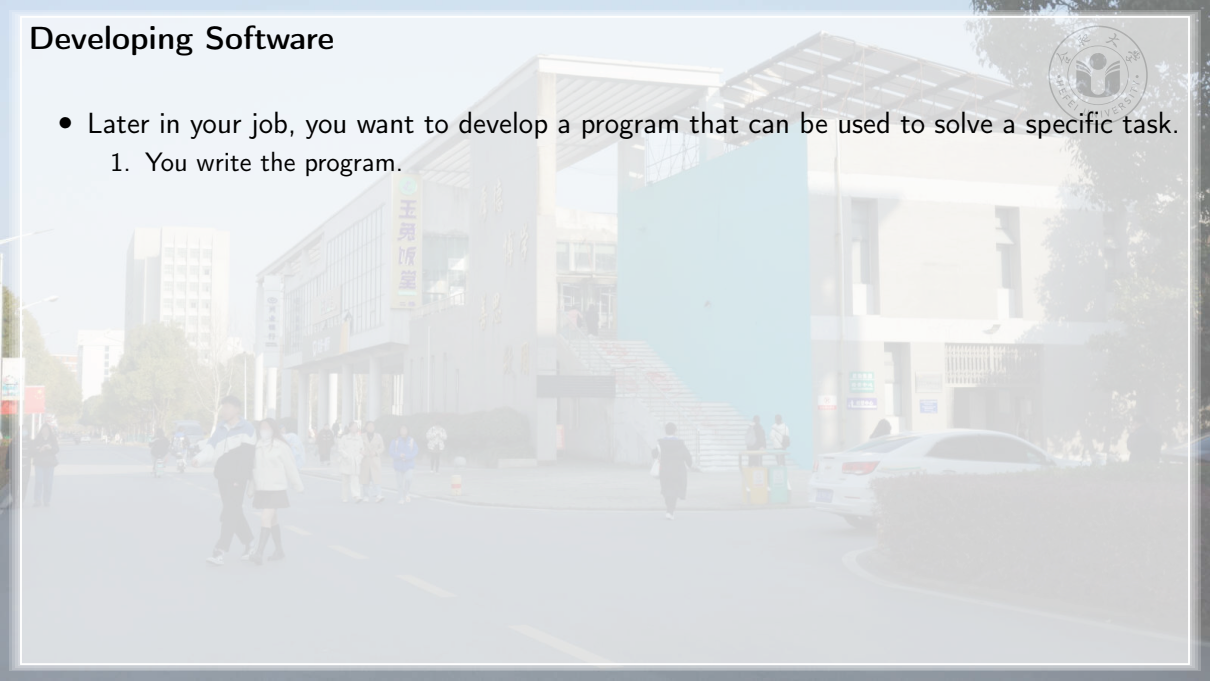




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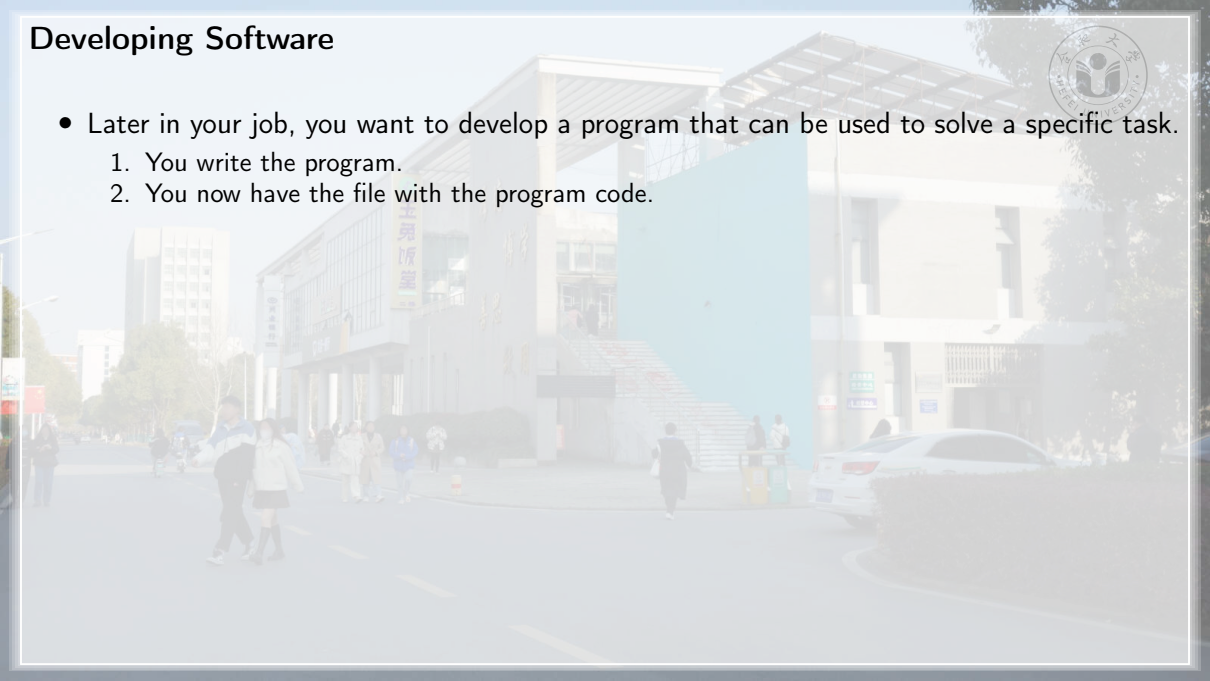
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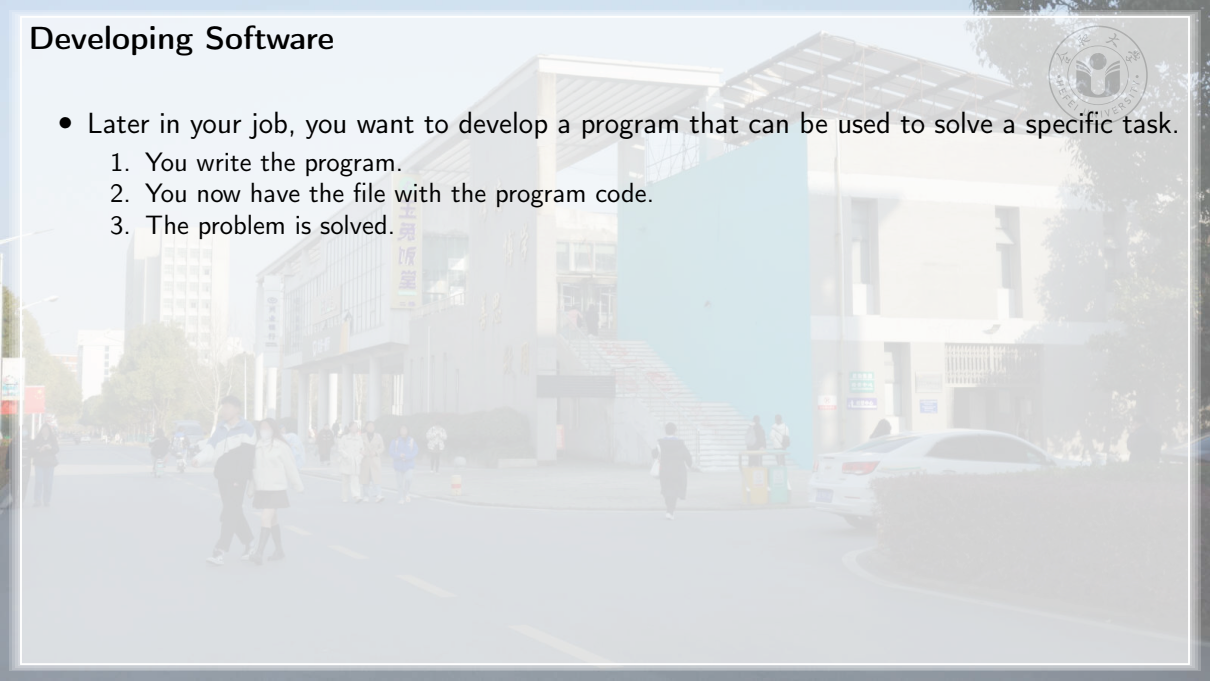
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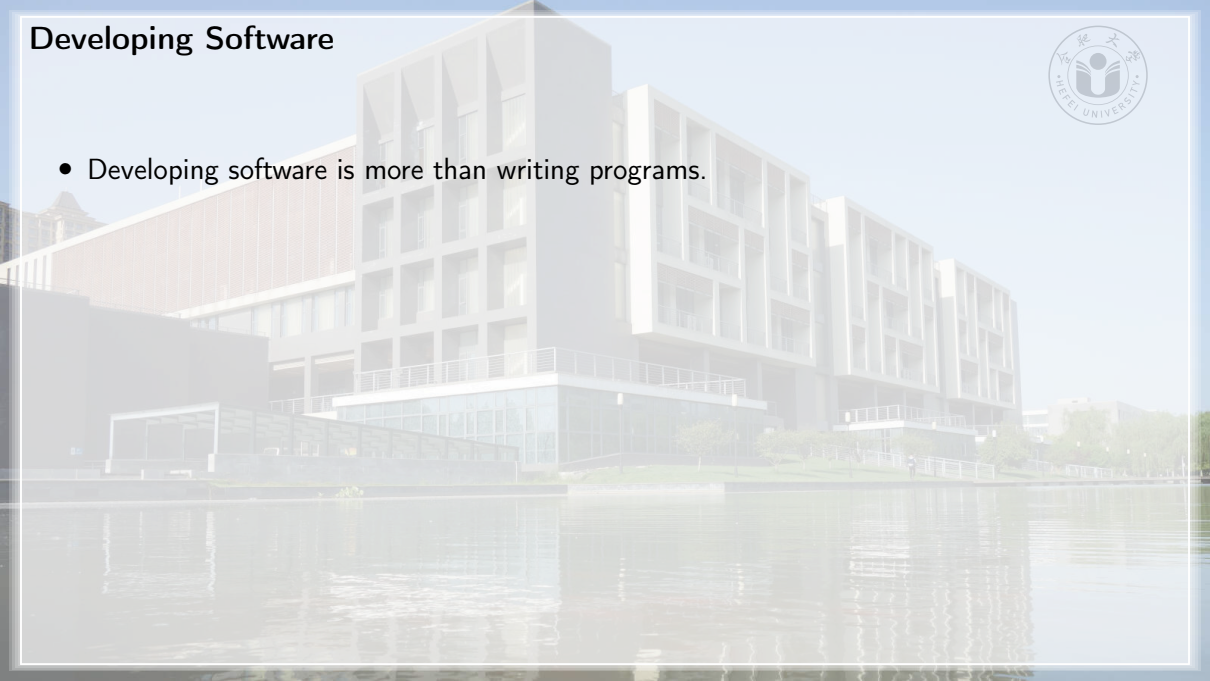


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- All of these things must be considered!

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- I do not want to go to a surgeon who does not wash their hands before operating on me.
- And I will not teach you programming without emphasizing code cleanliness.

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- Our course is on developing good software with Python.



# Why Python?



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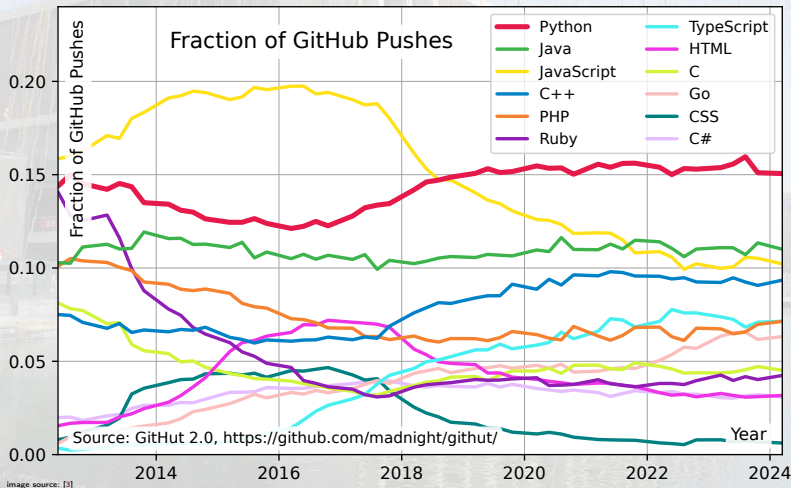
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4. Python is very easy to learn<sup>7,23</sup>. It has a simple and clean syntax and enforces a readable structure of programs. Python has expressive built-in types like lists, tuples, and dictionaries.

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**Programming in a compiled  
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**Programming**

A large, orange arrow with a black outline, pointing from the text "Programming" towards the right, indicating a transition or comparison to the next concept.



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## Programming in Python



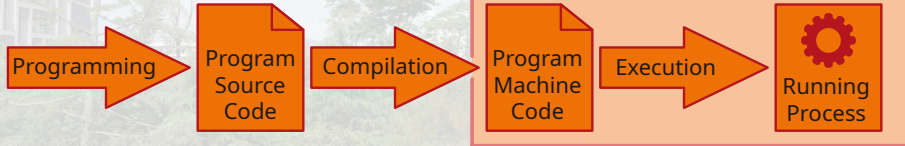


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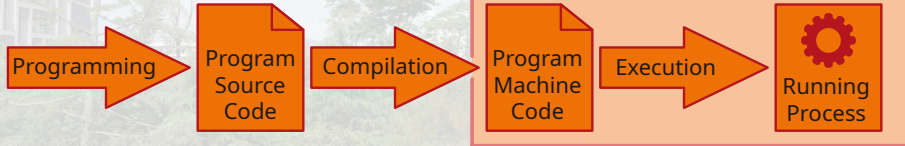


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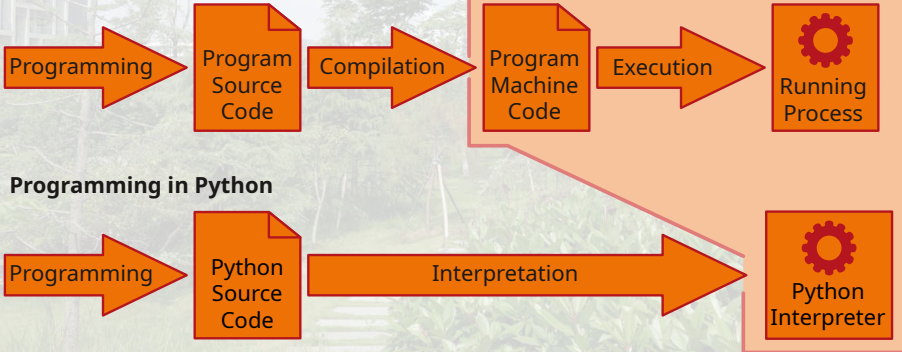


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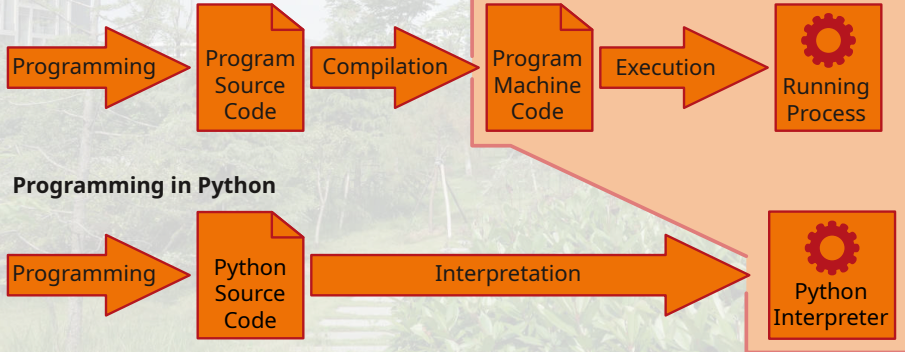


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- So there are fewer steps in the build process.

## Programming in a compiled language like C





# Summary



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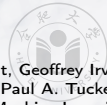


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Thank you





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