



Python Programming

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Programming

What is it?



WIKIPEDIA
The Free Encyclopedia

Computer programming is the process of performing a particular computation, usually by designing and building an executable computer program.

Programming involves tasks such as analysis, generating algorithms, profiling algorithms' accuracy and resource consumption, and the implementation of algorithms.

“Programming is how you get computers to solve problems.”

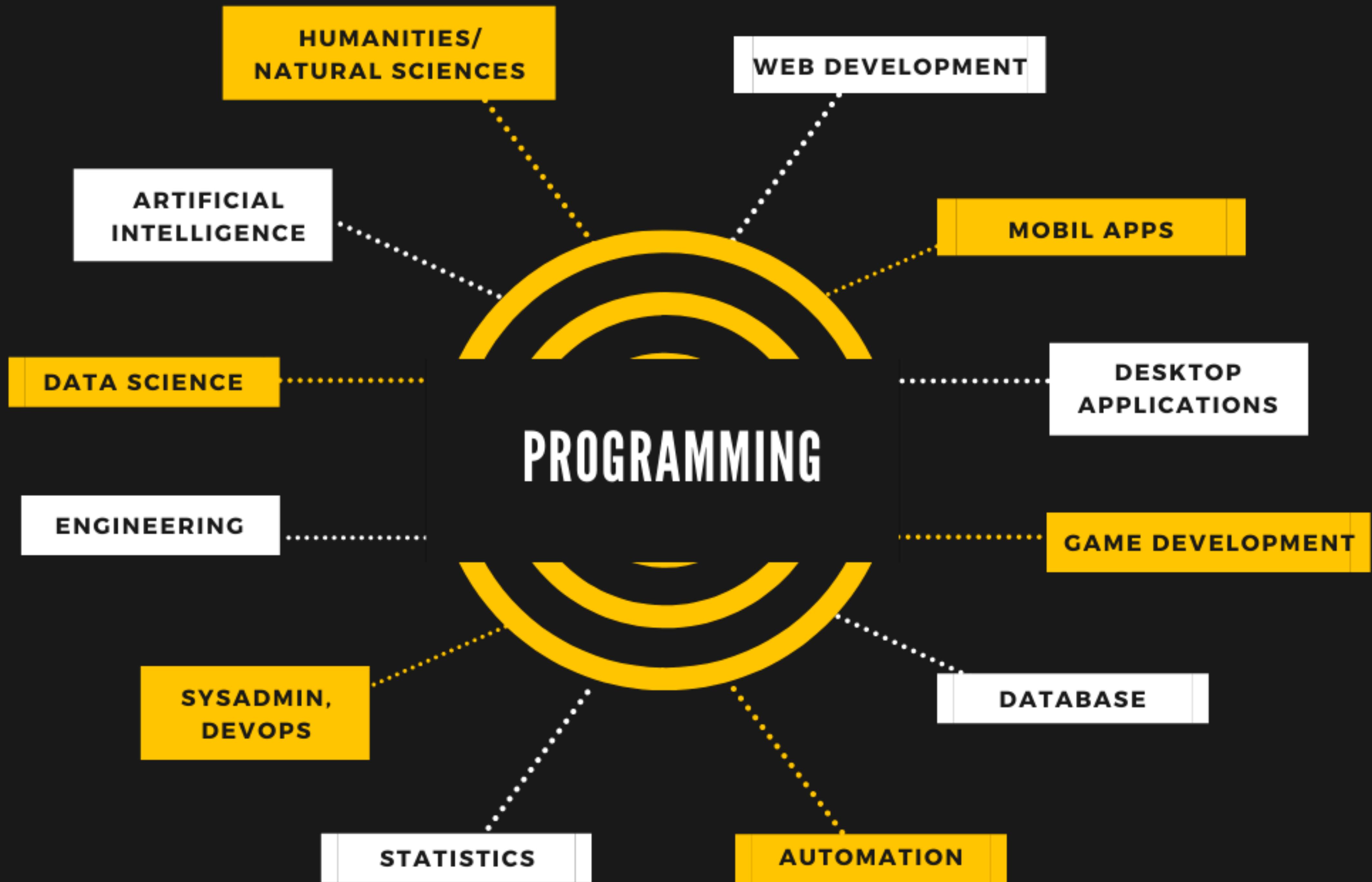
Programming

Why is it important?

“Everybody in this country should learn how to program a computer, Because it teaches you how to think.”

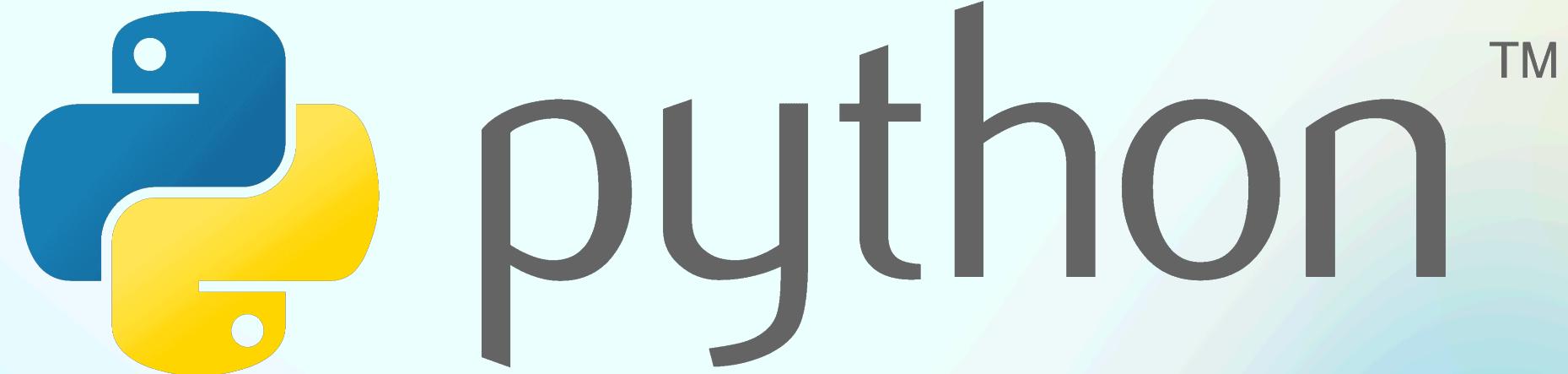
-Steve Jobs





Programming

Which Language?



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جامِ علُوم پُرٰشکی بیرونی

Python

What is it?

- **High-level**
- **General-purpose**
- **Object-oriented**
- **Open-Source**
- **Cross-platform**
- **Code readability**



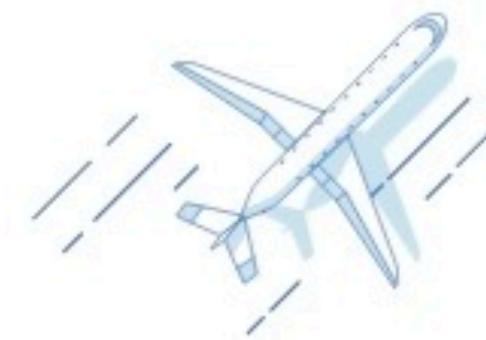
Guido
van Rossum

Python History

Python 1.0, including functional programming (lambda's, map, filter, reduce)

Python 3 fixes fundamental design flaws and is not backwards compatible

The Latest Version:
3.11.1



Van Rossum publishes Python version 0.9.0 to alt.sources

Python 2 introduces list comprehensions and garbage collection

Python 2 is end of life, last version 2.7.18 released

Python

What are its advantages?

- Open-Source
- Simple Syntax
- Versatile
- Beginner Friendly
- Modules and Libraries
- Large and Active Community



open source
initiative

“Hello, World”

- C

```
#include <stdio.h>

int main(int argc, char ** argv)
{
    printf("Hello, World!\n");
}
```
- Java

```
public class Hello
{
    public static void main(String argv[])
    {
        System.out.println("Hello, World!");
    }
}
```
- now in Python

```
print "Hello, World!"
```

Python

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Python

Why?

Stackoverflow



The most loved programming languages in 2015

1. Swift	77.6%	6. Scala	70.6%
2. C++11	75.6%	7. F#	70.1%
3. Rust	73.8%	8. Haskell	69.5%
4. Go	72.5%	9. C#	67.2%
5. Clojure	71.0%	10. Python	66.6%

The most loved programming languages in 2020

1. Rust	86.1%	6. Julia	62.2%
2. TypeScript	67.1%	7. Dart	62.1%
3. Python	66.7%	8. C#	59.7%
4. Kotlin	62.9%	9. Swift	59.5%
5. Go	62.3%	10. JavaScript	58.3%

Python

Why?

Stackoverflow



The most in-demand programming languages in 2015

1. Android	17.7%	6. Java	10.5%
2. Javascript	15.4%	7. iOS	9.4%
3. Python	14.8%	8. Arduino / Raspberry Pi	8.5%
4. Node.js	14.6%	9. Swift	8.5%
5. AngularJS	13.2%	10. C#	8.0%

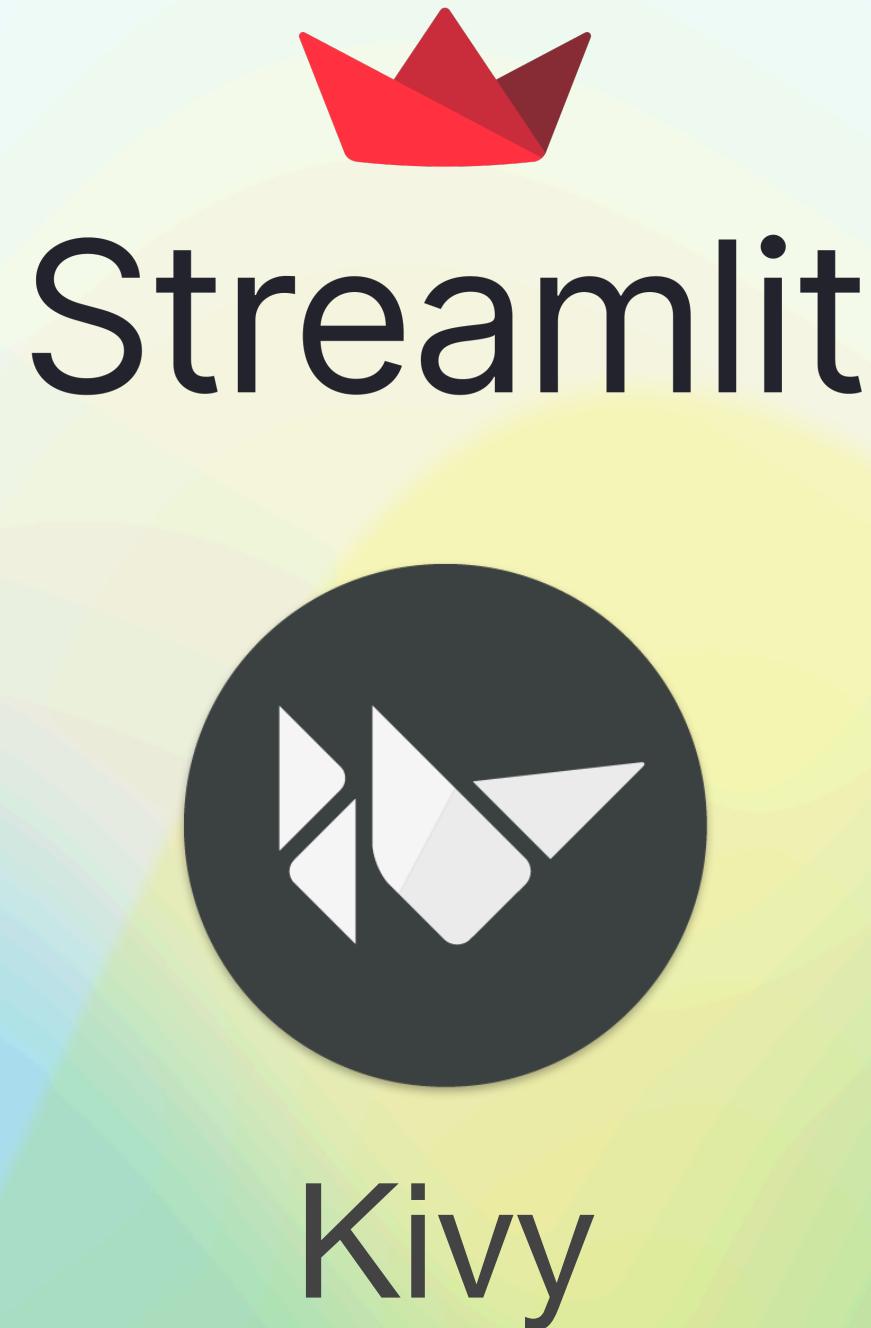
The most in-demand programming languages in 2020

1. Python	30.0%	6. Kotlin	12.6%
2. JavaScript	18.5%	7. Java	8.8%
3. Go	17.9%	8. C++	8.6%
4. TypeScript	17.0%	9. SQL	8.2%
5. Rust	14.6%	10. C#	7.3%

Python

What can we do using it?

- Everyday tasks
- Software testing
- App Development
- Automation
- Web development
- Scientific programming
- Data analysis and machine learning



> ≡

Mayocardial Infarction Diagnosis

Please enter expression values of following microRNAs:

miR-186: - +

miR-21: - +

mir-32: - +

Python

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django



