

Inspire Club, *MANIT* Bhopal

Presenting

Welcome To Python Course

4-Weeks (Mon-Fri)

Starting: May 4, 2021



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Who are we?

Meet your instructors

Akash Maji

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Working in: TCS Digital

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Technocrats Institute Of
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Working in: Urban Company



Inspire Club, MANIT Bhopal (M.P.)

Know about us!

Inspire Club established in **2008** by MANIT Bhopal Alumni

We believe in competence with character



Inspire Club in many colleges
like in MANIT ,IISER,SATI,IIT
INDORE,IIT KANPUR,IIT IIT DELHI



**We organise youth programs
in
various colleges
in
Bhopal.**

**Last year we have organised
GLC Gita Leadership Contest
in
80 colleges
in
Bhopal**

DAY 01

Introduction to “COMPUTER SCIENCE”

What is computer?



Laptop



Desktop

Definition of **computer**.

A **computer** is a machine or device that performs processes, calculations and operations based on instructions provided by a software or hardware program. It has the ability to accept data (input), process it, and then produce outputs.



What is 'computer science'?

Field? Or Subject?

Computer science is the study of **algorithmic processes**, **computational machines** and computation itself. As a discipline, computer science spans a range of topics from theoretical studies of **algorithms**, **computation** and **information** to the practical issues of implementing computational systems in **hardware** and **software**.

What is the scope of CSE?

- Developing softwares
- Running Companies
- Developing interactive Games
- Getting a high paying job
- Lesser effort and more money
- Comfortable life
- Develop fast algorithms (save human time)
- Automate repetitive tasks
- Have fun

Introduction to languages

- Language is a medium of communication
- We can use language for exchange of ideas

There are two types of languages:-

[The Difference Between Formal and Informal Language - ESLBuzz Learning English](#)

1. Formal languages
2. Informal languages

We speak informal language with our friends and families

We speak informal language with our computers

Difference between human and machine language?

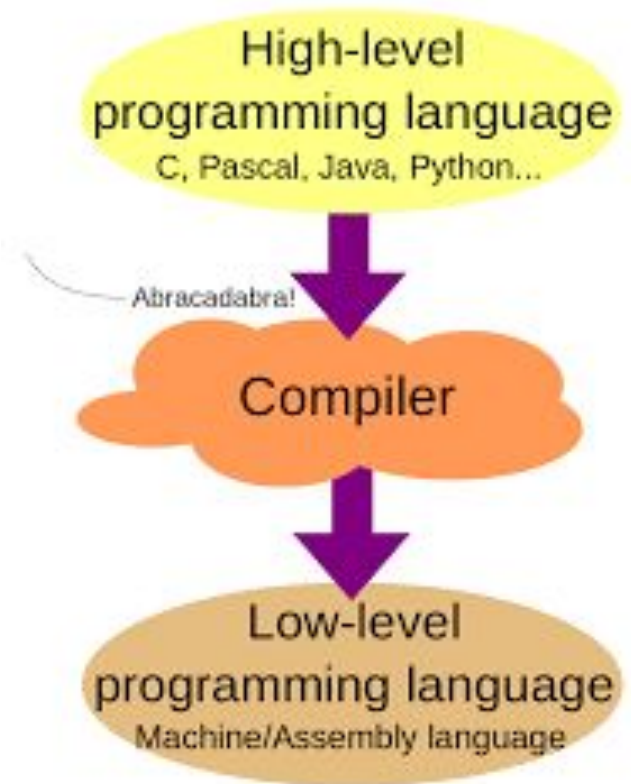
High Level vs Low Level Language

High level:

human friendly,
easy to learn and write,
close to humans

Low level:

machine friendly,
difficult to learn,
close to machines



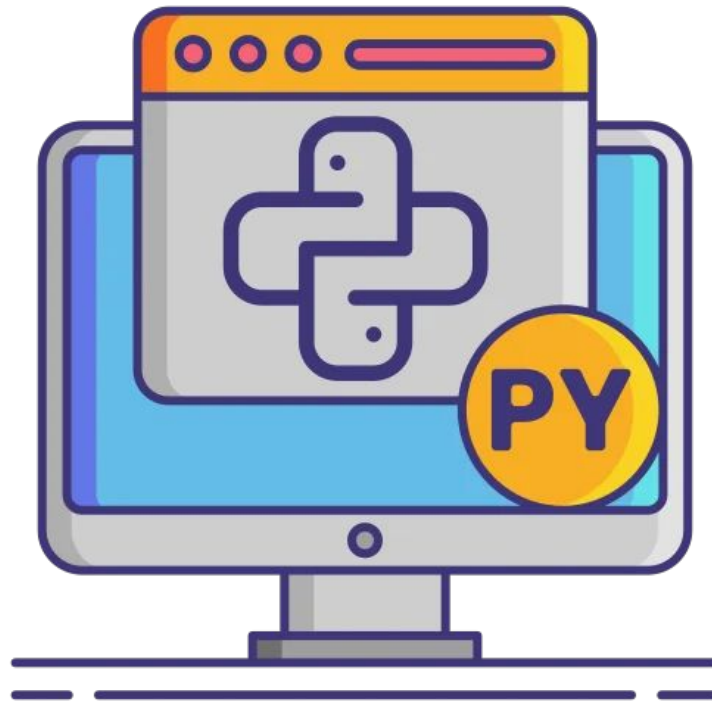
Best programming language to begin with (for newbies)

Scratch (for kids)

Python (for young)

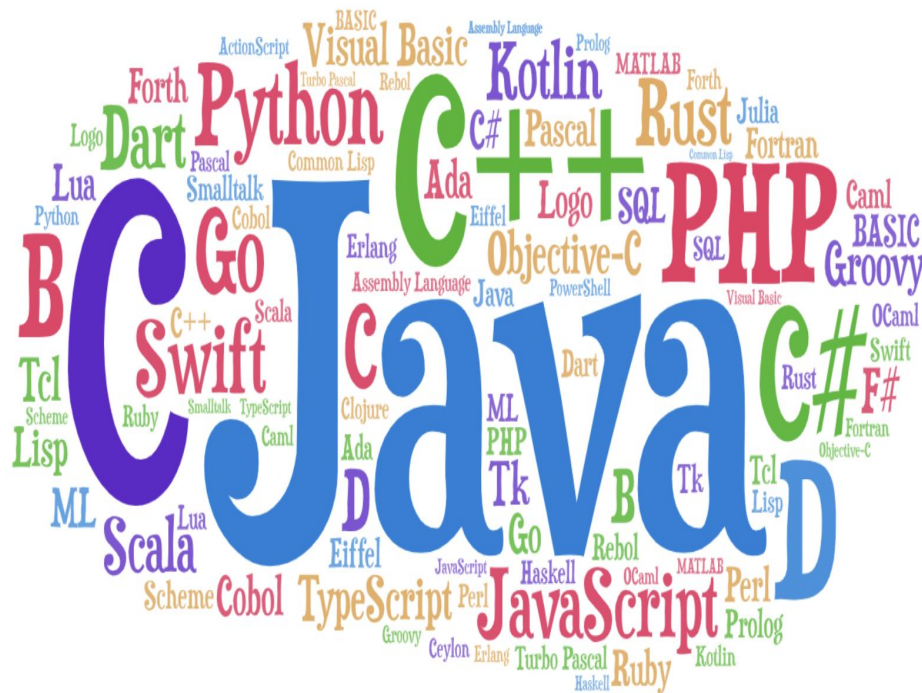
C++ (somewhat difficult)

Java (somewhat difficult)



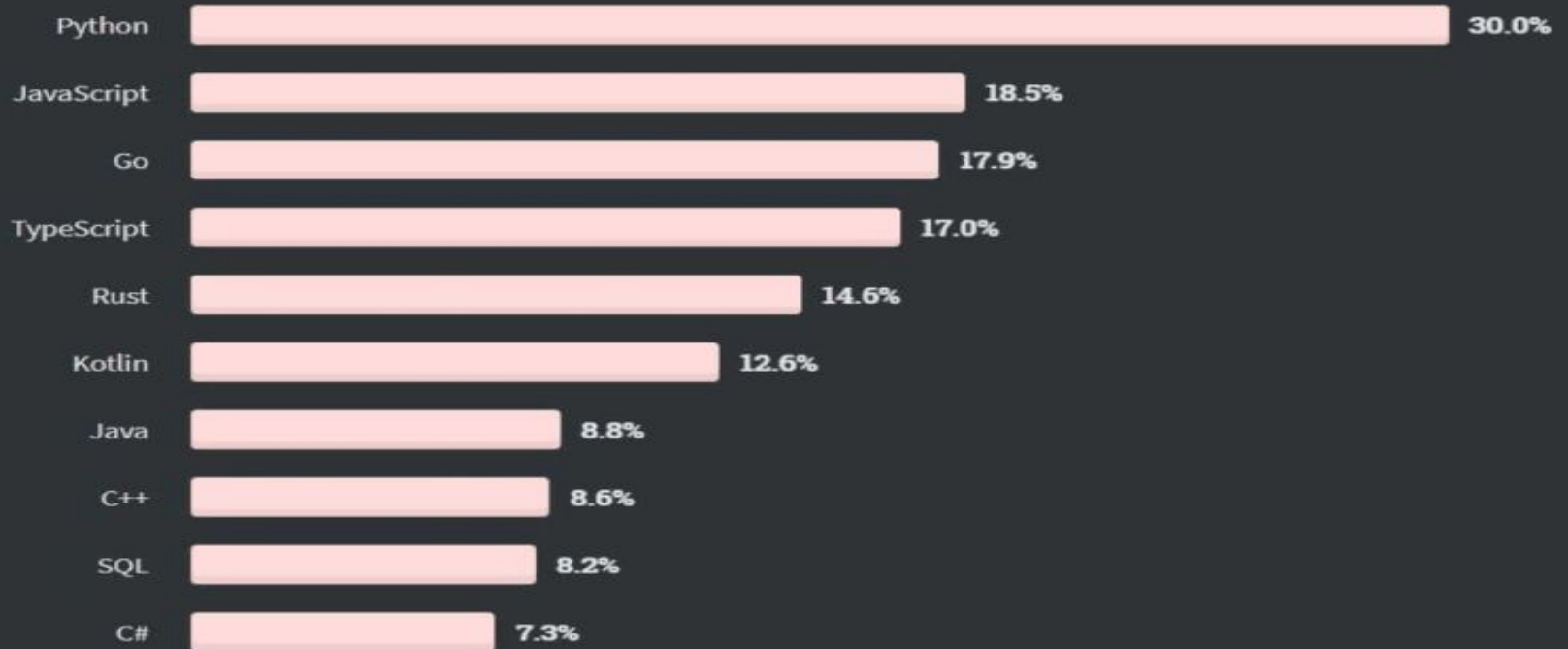
What can we do with programming languages?

- Write code
- Write games
- Write websites
- Write blogs
- Write efficient code in contests
- Write a large scale system



List of some popular languages?

The most wanted top programming languages



Introduction to Python (as a new and powerful language)

Following are important characteristics of Python Programming –

- It supports functional and structured programming methods as well as OOP.
- It can be used as a scripting language or can be compiled to byte-code for building large applications.
- It provides very high-level dynamic data types and supports dynamic type checking.
- It supports automatic garbage collection.
- It can be easily integrated with C, C++, COM, ActiveX, CORBA, and Java.
- **Python is Interpreted** – Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.
- **Python is Interactive** – You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.
- **Python is Object-Oriented** – Python supports Object-Oriented style or technique of programming that encapsulates code within objects.
- **Python is a Beginner's Language** – Python is a great language for the beginner-level programmers and supports the development of a wide range of applications from simple text processing to WWW browsers to games.

Some common misconceptions about “PYTHON”

Python is not named after snake

Python is named after a comedy show name

“Monty Python Flying Circus” in 1969

Guido van Rossum loved this show



History and Python in the 90s



Python is an experiment in how much freedom programmers need. Too much freedom and nobody can read another's code; too little and expressiveness is endangered.

— *Guido van Rossum* —

AZ QUOTES

Facts about Python:-

Started as a Hobby Project in December 1989

Dutch [programmer](#) best known as the creator of the [Python programming](#)

He was the "[benevolent dictator for life](#)" (BDFL) for PSF (Python Software Foundation)

[Guido's Home Page](#)

Python was conceived in the late 1980s¹ by [Guido van Rossum](#) at [Centrum Wiskunde & Informatica \(CWI\)](#) in the [Netherlands](#) as a successor to [ABC programming language](#)

<https://pythoninstitute.org/what-is-python/>

Applications of Python

- **Easy-to-learn** – Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.
- **Easy-to-read** – Python code is more clearly defined and visible to the eyes.
- **Easy-to-maintain** – Python's source code is fairly easy-to-maintain.
- **A broad standard library** – Python's bulk of the library is very portable and cross-platform compatible on UNIX, Windows, and Macintosh.
- **Interactive Mode** – Python has support for an interactive mode which allows interactive testing and debugging of snippets of code.

- **Portable** – Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
- **Extendable** – You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.
- **Databases** – Python provides interfaces to all major commercial databases.
- **GUI Programming** – Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix.
- **Scalable** – Python provides a better structure and support for large programs than shell scripting.

Let's get our hands dirty

```
print("Hello, world!")
```

Input & Output

Reading and Writing (console/screen)

A "Hello, World!" is a simple program that outputs `Hello, World!` on the screen.

Since it's a very simple program, it's often used to introduce a new programming language to beginners.

Python vs C++

A small Comparison



C++



Python

```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout << "Hello World";
7     return 0;
8 }
```



Run





C++



Python

```
1 print "Hello world"
```



Run



Thank You!

SHARE YOUR Feedback in the WhatsApp Group

@akash or @gopal

// comments

// feedback

// ideas

[Your Name]

[Your College Name]