Computational Thinking

Computational Thinking

The process of taking complex problems and breaking them into series of small, more manageable problems.

Components of computational thinking

01

Decomposition
break down the problem into smaller pieces

02

Pattern Recognition
identify connections between different parts of the problem

03

Abstraction
extract the most relevant information

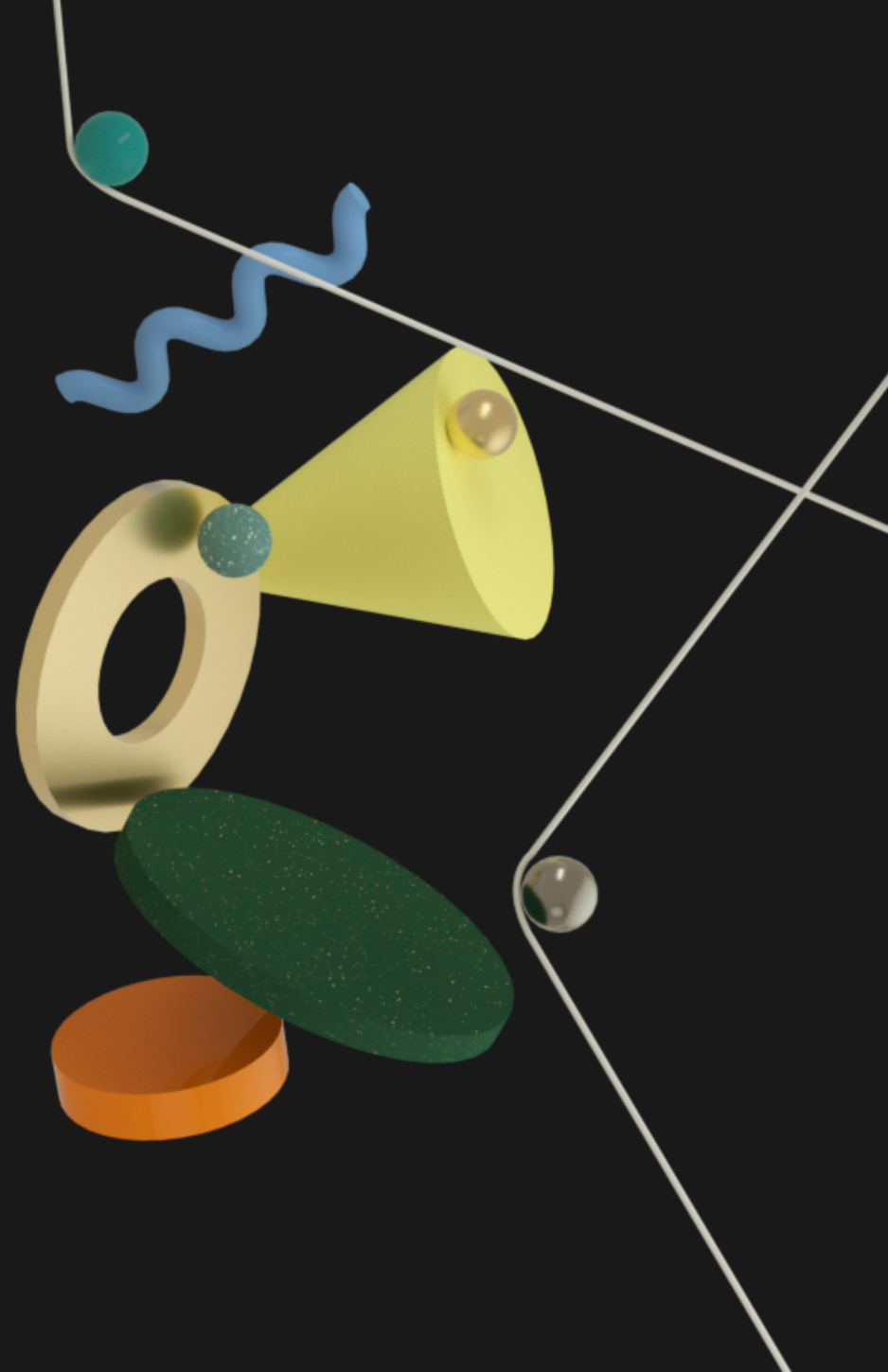
04

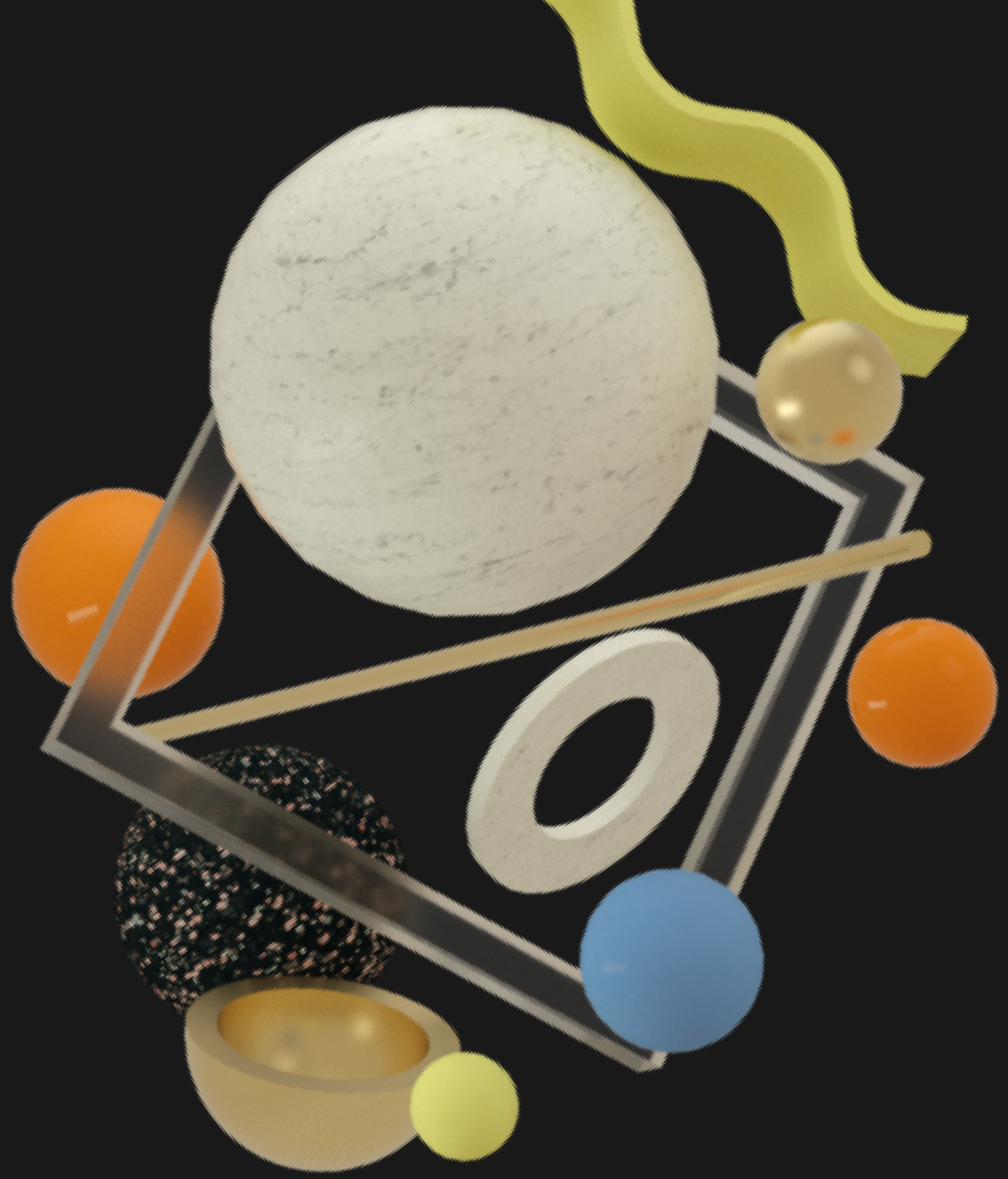
Algorithmic thinking
extract the most relevant information

Coding

The process of creating instructions for a computer using a programming language.

A programming language is made up of a series of symbols that serves as a bridge that allow humans to translate our thoughts into instructions computers can understand.





Examples

- Python
- Javascript
- Java
- C
- Dart
- Swift

Types of Computer Programming (Application Development)

01 **Mobile Applications Development** : creating applications for mobile phones

02 **Desktop Applications Development**: creating applications for laptops and servers

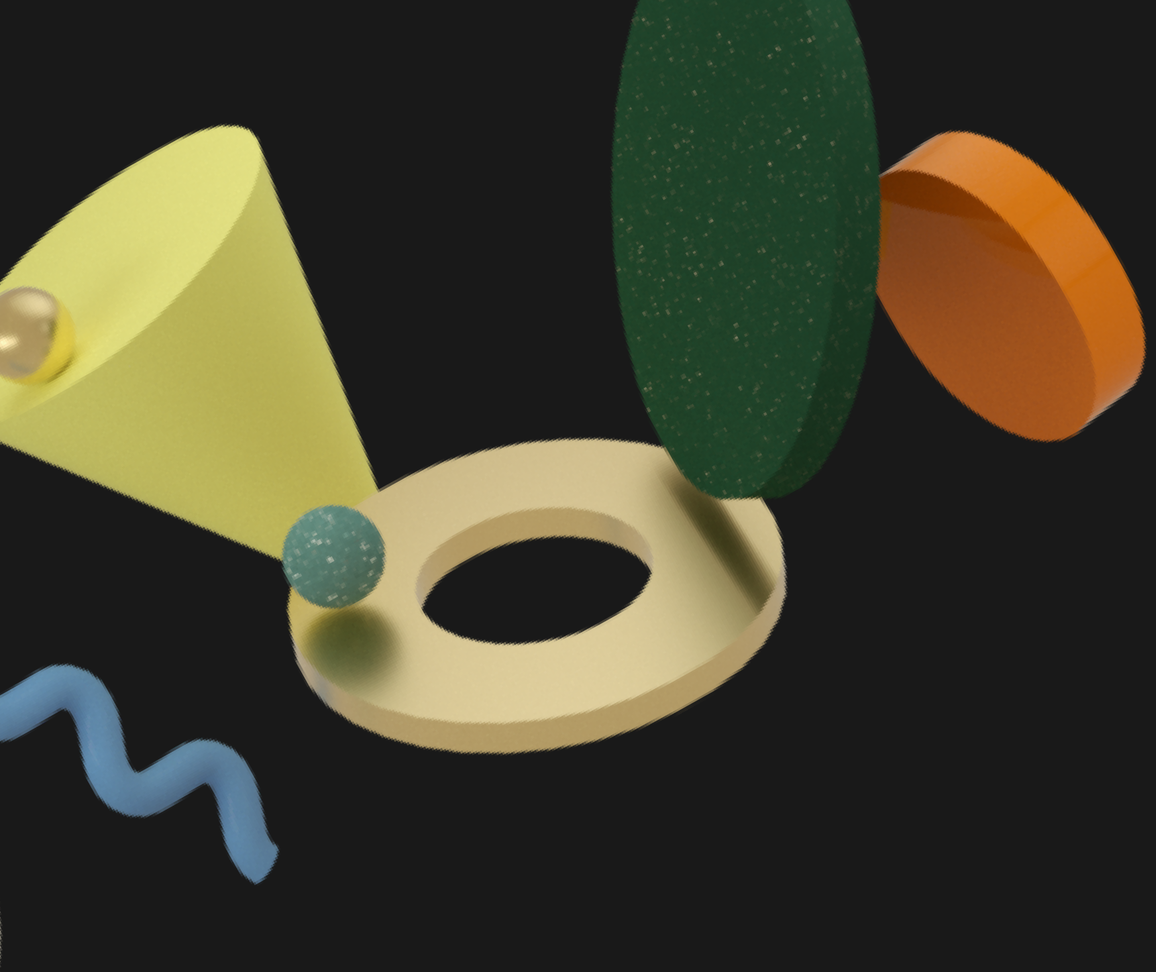
03 **Web Applications Development**: creating applications and pages to run in browsers on laptops and mobile devices

Fundamentals of Web Application Development

Front-end

Database

Backend

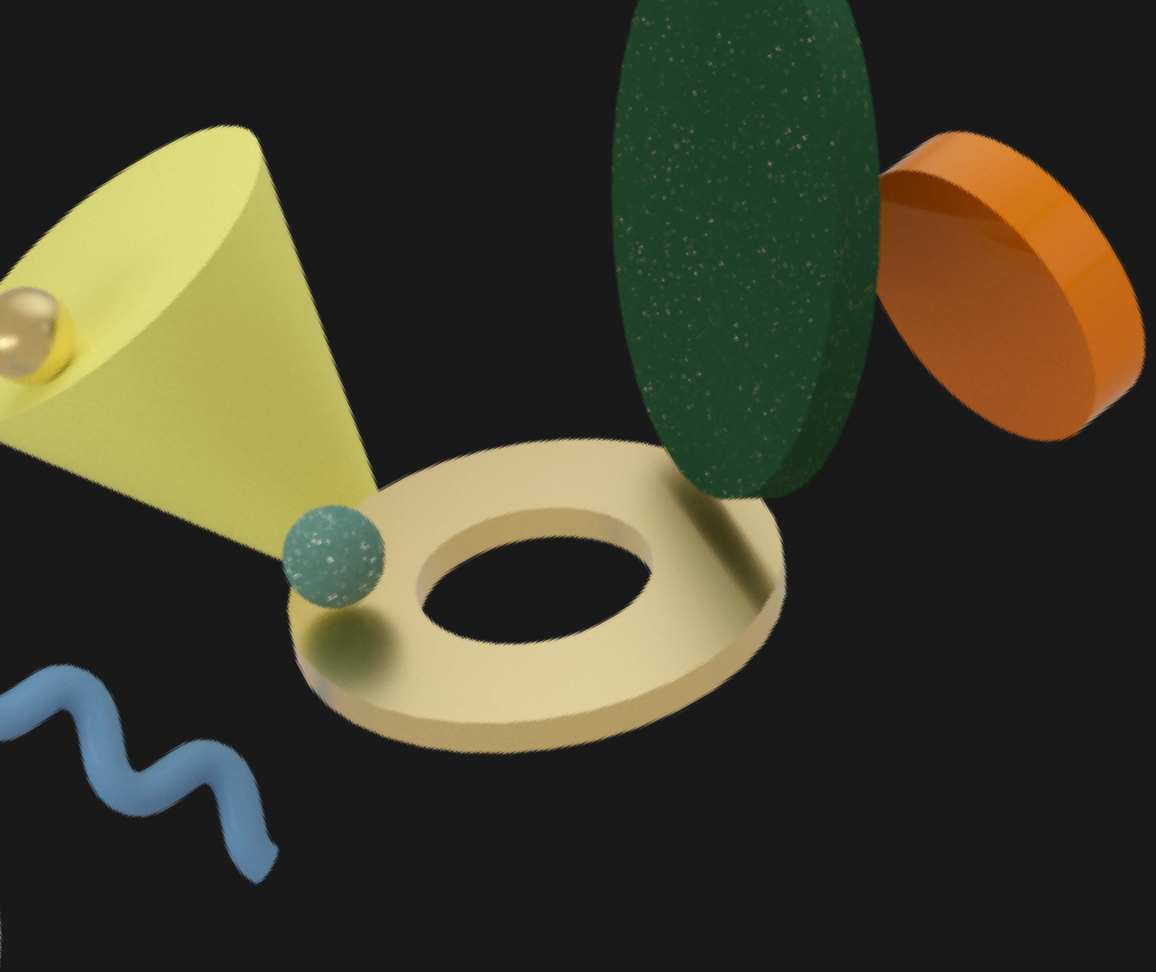


HTMl

Hyper Text Markup Language

Basic markup Language , defines the structure of a webpage

```
<html>
    <head>
    </head>
    <body>
    </body>
</html>
```



CSS

Cascading Style Sheets

Allows you to customise pages, change colors and Animations

```
p {
  color:  grey;
  font-size : 25px;
}
```