

# Programming Skills - Python

Learn the basics of Python Programming

Day - 8

# Introduction to OOP

# Agenda

## 8.1. Brief Recap

A brief recap of what we discussed yesterday.

## 8.2. What is OOP

Defining and understanding Object Oriented Programming.

## 8.3. Classes

Defining and understanding what a class is.

## 8.4. Objects

Defining and understanding what objects are.

## Agenda

### 8.5. Attributes and Methods

Learn more about attributes and methods.

### 8.6. The `__init__` Method

Learn and understand what this method does.

### 8.7. Putting it all together

Learning with examples.

# 8.1. Brief Recap

## 8.2. What is Object-Oriented Programming?

# Object-Oriented Programming

A programming paradigm based on the concept of "objects". It defines and uses concepts like classes, objects, methods, and attributes.

## 8.3. Classes



# Classes

A class is a blueprint for creating objects.

If a cake is an object, its recipe would be the blueprint.

Syntax:

```
class ClassName:  
    # class body
```

## 8.4. Objects

# Objects

An object is an instance of a class.

If Car is a class, then Nano is an object.

Syntax:

```
nano = Car()
```

## 8.5. Attributes and Methods

# Attributes

Characteristics or properties of an object. A Car class might have attributes like color, model, or year.

```
class Car:
    def __init__(self, color, model):
        self.color = color
        self.model = model
```

# Methods

Functions that belong to a class.

```
class Car:  
    def drive(self):  
        print("The car is driving.")
```

## 8.6. The `__init__` Method

# `__init__`

Initializes object attributes, called automatically when an object is created.

```
class Car:  
    def __init__(self, color):  
        self.color = color
```



## 8.7. Putting it all together

## Example

```
class Car:
    def __init__(self, color):
        self.color = color

    def drive(self):
        print(f"The {self.color}
              car is driving.")

my_car = Car("red")
my_car.drive()
```

**Q&A**

**Thank You!**