

# Training Program on Machine Learning (1<sup>st</sup> Sept., 2023 to 30<sup>th</sup> Sept., 2023)

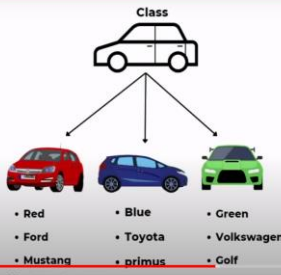
Machine Learning (ML) is a field of artificial intelligence (AI) that focuses on developing algorithms and models that enable computers to learn and make predictions or decisions without being explicitly programmed. ML systems use data to improve their performance over time, allowing them to identify patterns, make predictions, and adapt to new information. Thus a 30 Days Masterclass on Machine Learning was organized for the students from 1<sup>st</sup> to 30<sup>th</sup> Sept, 2023. Dr. Souvik Ganguli from the Department of Electrical and Instrumentation Engineering, Thapar Institute of Engineering and Technology, Patiala was the coordinator of the program. The program link for the program is given for reference:

[https://www.youtube.com/watch?v=7Bbt5Neq\\_4A](https://www.youtube.com/watch?v=7Bbt5Neq_4A)

The collage consists of six screenshots from a YouTube video titled "30 Days Machine Learning Master Class".

- Top Left:** Title slide for "30 Days Machine Learning Master Class Day1 Introduction to Python". It features a "FREE REGISTRATION" button and the Pantech e Learning logo.
- Top Right:** "Machine Learning Learning Plan" slide showing a 5-day schedule:
  - 01: Introduction To Python and Python Data Structures
  - 02: Machine Learning Concepts, Libraries For Machine Learning
  - 03: Supervised Learning: Linear Regression, SVM Algorithm, Random Forest, Naive Bayes Algorithm
  - 04: Unsupervised Learning: Elbow Method, K-Means Clustering
  - 05: Opportunities: Project Building, AI Jobs
- Middle Left:** "WHAT IS MACHINE LEARNING?" slide. It compares human learning ("HUMANS LEARN FROM PAST EXPERIENCES") with machine learning ("MACHINES FOLLOW INSTRUCTIONS GIVEN BY HUMANS") using illustrations of a person and a robot.
- Middle Right:** "Types of Programming languages" slide. It categorizes languages into High-level (Python, C++, Perl, Java) and Low-level (Machine languages, Assembly languages).
- Bottom Left:** "Signal Processing" slide. It states that Python can be used for signal processing and advanced visualization techniques, with an example of Python's contribution in neuroscience data analysis.
- Bottom Right:** "Python' View" slide. It illustrates the runtime execution model: Source (m.py) is converted to Byte code (m.pyc), which is then executed by the Python Virtual Machine (PVM) at Runtime.

# Class and Object



- Python is an object oriented programming language, almost everything in python is object, with its properties and methods
- A class is like object constructor, or a "blueprint" for creating objects

```
class person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

    def one(self):
        return f"Hello, i am {self.name}, and i am {self.age} years old"
    def two(self):
        return f"this is {self.name}, {self.age} yrs old"
    def three(self):
        return f"My name is {self.name}"
```