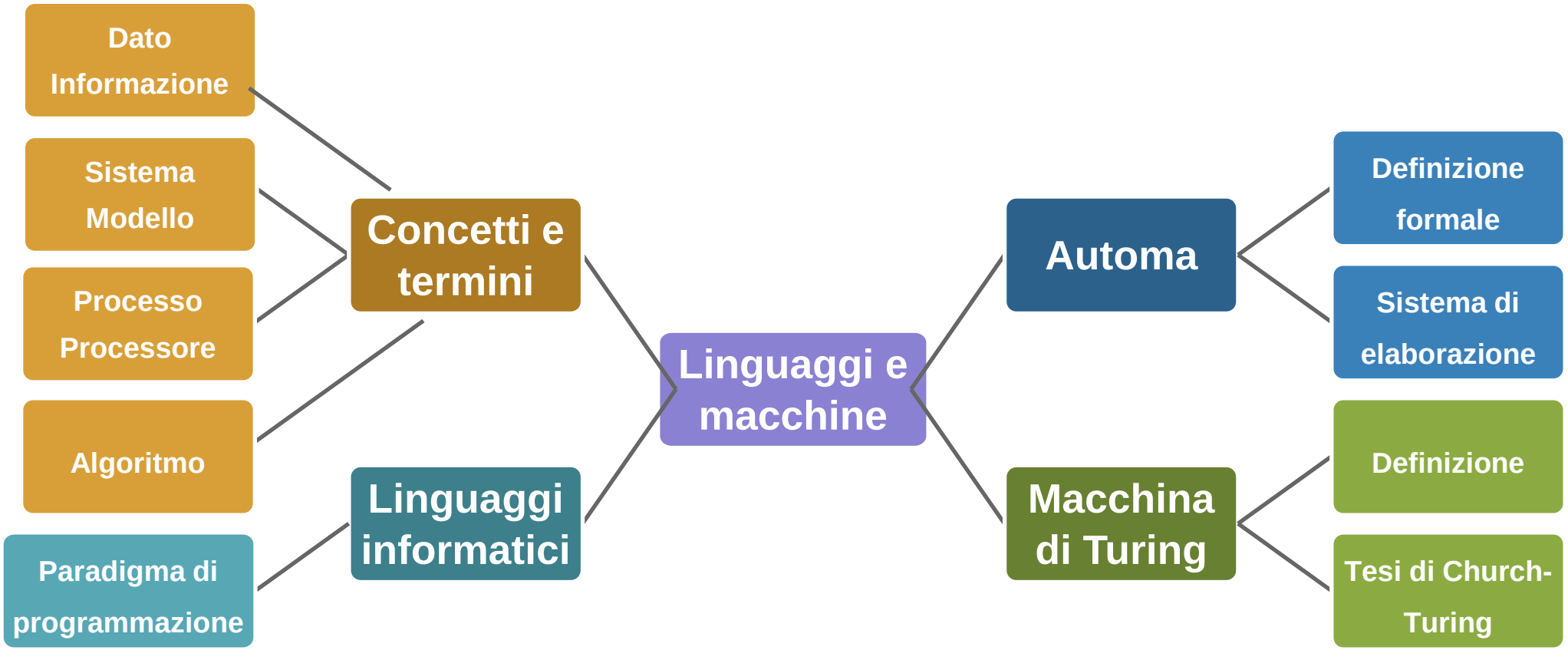
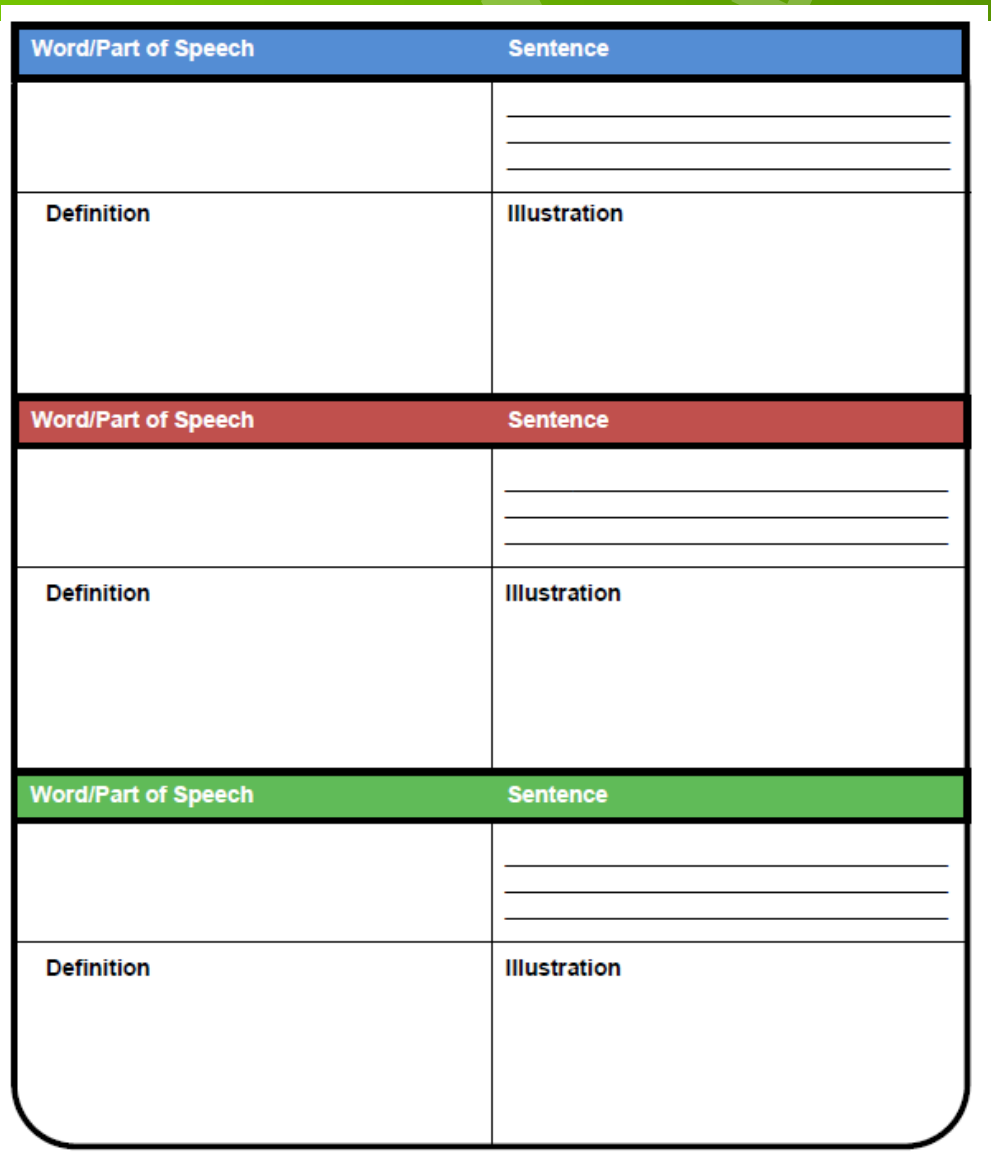
INTRODUZIONE


Dato
Informazione
Sistema
Modello
Processo
Processore
Algoritmo
Paradigma di
programmazione
Concetti e
termini
Linguaggi
informatici
Linguaggi e
macchine
Automa
Macchina
di Turing
Definizione
formale
Sistema di
elaborazione
Definizione
Tesi di Church-
Turing

Ogni volta che trovi una parola sconosciuta compila un riquadro

https://www.naturalreaders.com/online/

for the pronunciation



DATA VS INFORMATION

DIFFERENCE BETWEEN DATA AND INFORMATION

DATA

Data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.

INFORMATION

When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.

SYSTEMS AND SYSTEM MODELS

Systems and System Models are useful in science and engineering because the world is complex, so it is helpful to isolate a single system and construct a simplified model of it.

A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems

WHAT IS A PROCESS?
WHAT IS A PROCESSOR?

Search the net and find a definition for PROCESS

The processor is the hardware entity that runs the process.

WHAT IS AN ALGORITHM?

An algorithm is **a procedure used for solving a problem or performing a computation**.

The recipe for baking a cake, the method we use to solve a long division problem, the process of doing laundry, and the functionality of a search engine are all examples of an algorithm

“

Definition :

Programming paradigms are models employed for developing computational solutions to problems.

PROGRAMMING PARADIGMS

Different programming languages have different paradigms.

There are five major programming paradigms.

PROGRAMMING PARADIGMS

1. Procedural or Imperative
2. Logical
3. Functional
4. Object oriented
5. Event driven

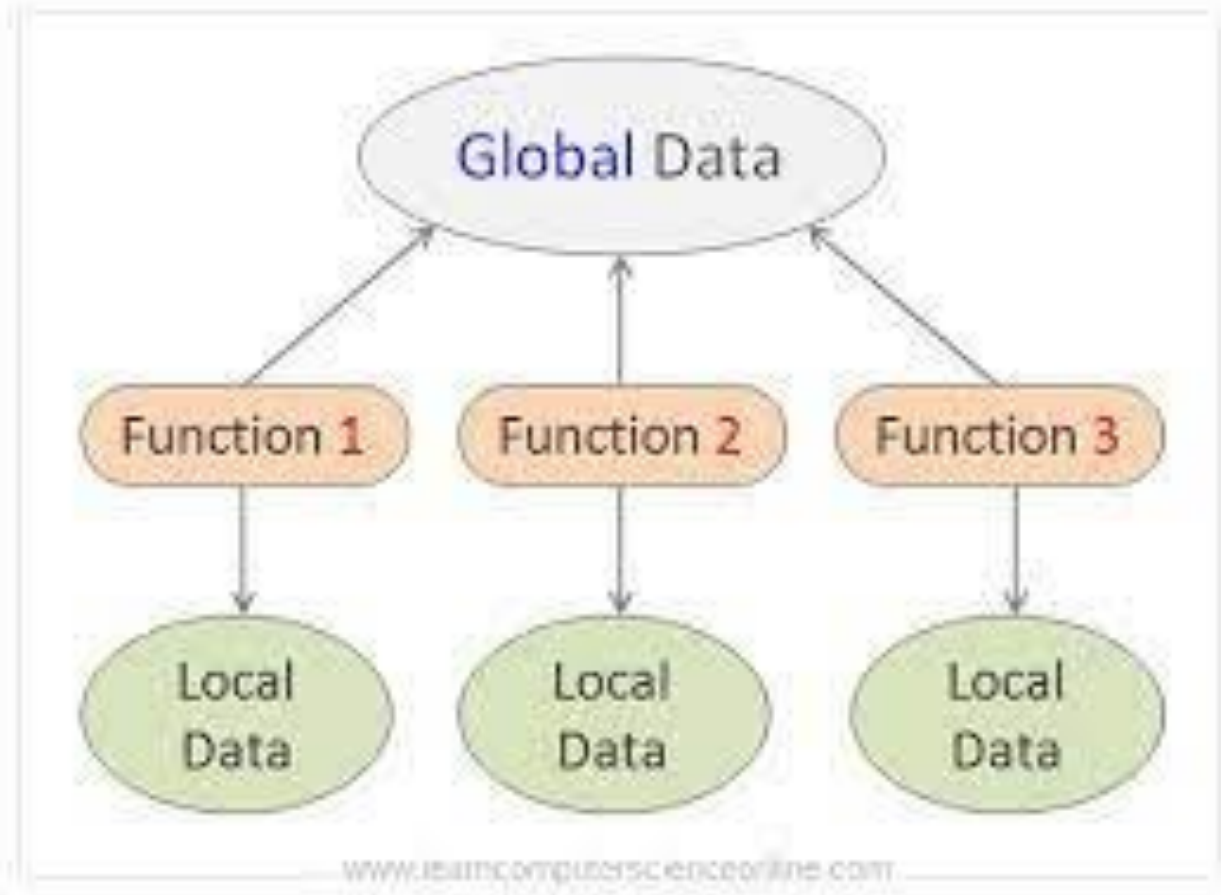
DEFINITION

PROCEDURAL PROGRAMMING PARADIGM

is based upon the concept of procedure calls

focuses on how to do something (i. e. steps)

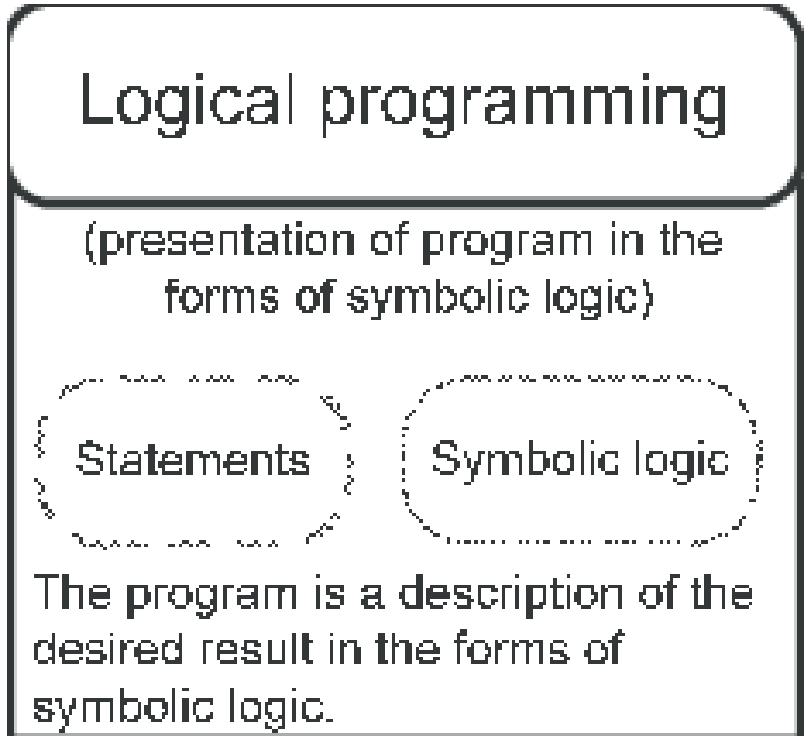
Find some examples of languages of the paradigm



DEFINITION

LOGICAL PROGRAMMING PARADIGM

is based on mathematical logic

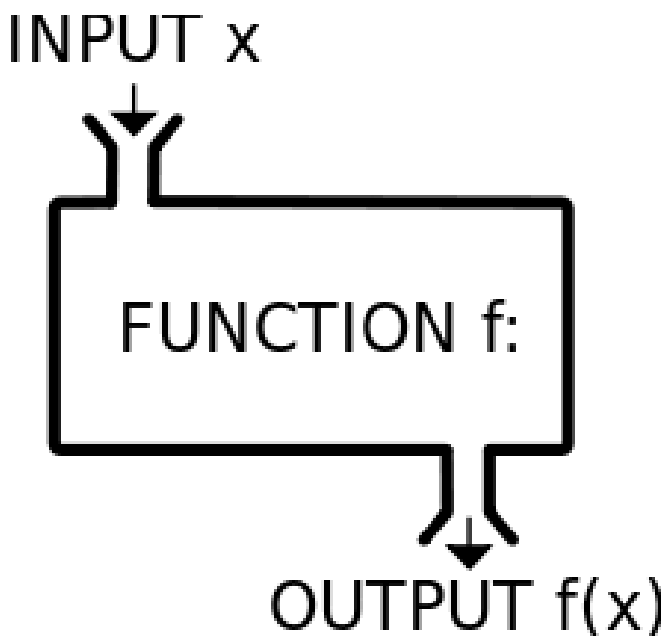


Find some examples of languages of the paradigm

DEFINITION

FUNCTIONAL PROGRAMMING PARADIGM

consists only of PURE functions. Pure functions are those which take an argument list as an input and whose output is a return value

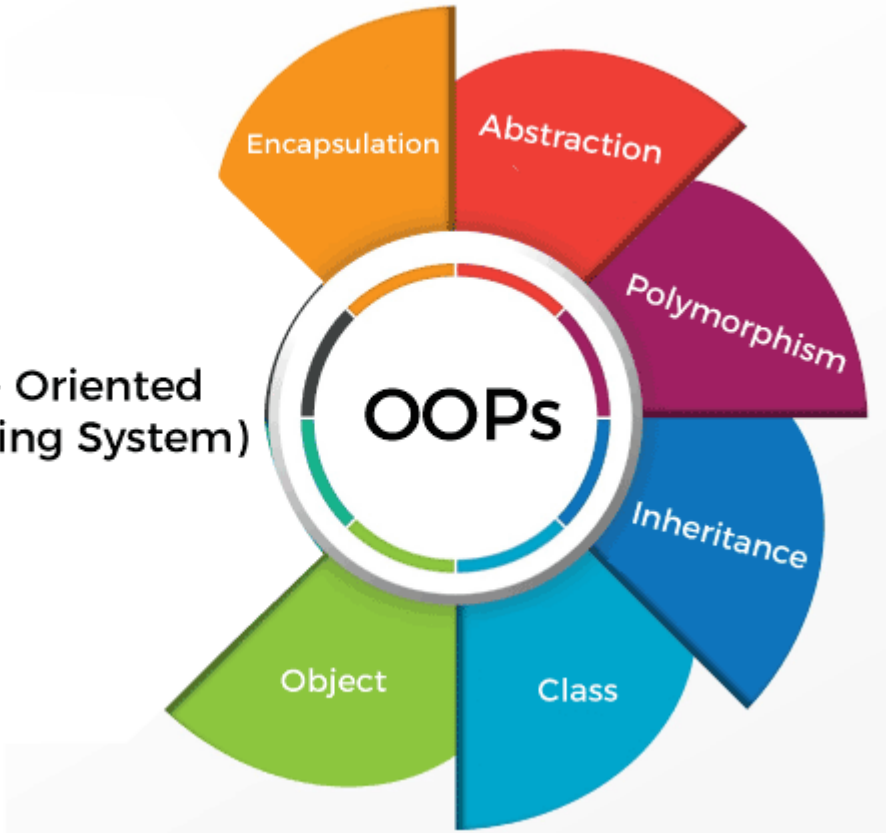


Find some examples of languages of the paradigm

DEFINITION

OBJECT ORIENTED PROGRAMMING PARADIGM

all real-world entities are represented
by *Classes*. *Objects* are instances of classes and interact with each other by passing messages.

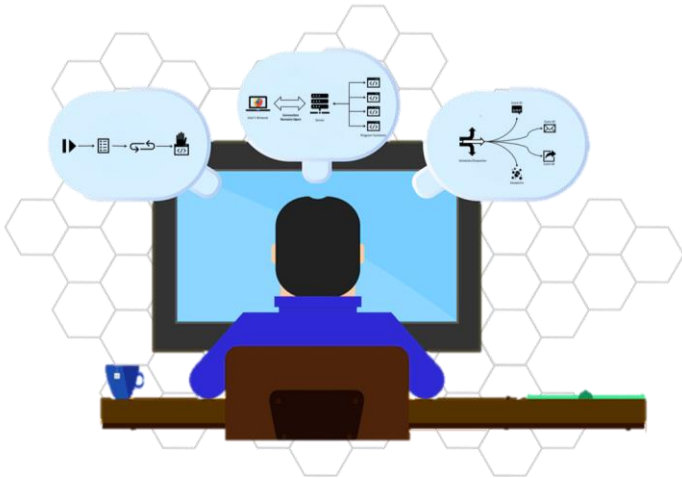


Find some examples of languages of the paradigm

DEFINITION

EVENT DRIVEN PROGRAMMING PARADIGM

The control flow of
the program is determined
by the occurrence of events



Find some examples of languages of the paradigm

DEFINITION OF AUTOMATON

- 1 : a mechanism that is relatively self-operating especially a robot.
- 2 : a machine or control mechanism designed to follow automatically a predetermined sequence of operations or respond to encoded instructions.

WHY A PROCESSING SYSTEM IS LIKE AN AUTOMATON?

Find the answer (EN/IT)

TURING MACHINE

Definition

A mathematical model of a hypothetical computing machine which can use a predefined set of rules to determine a result from a set of input variables.

Is a computer a Turing machine?

TESI DI CHURCH - TURING

La tesi di Church-Turing è un'**ipotesi che afferma: «Se un problema è umanamente calcolabile, allora esisterà una macchina di Turing in grado di risolverlo (cioè di calcolarlo)»**

Scheda di autovalutazione

	Con difficoltà	Con incertezza	Con sicurezza
Conosco il significato di informazione, comunicazione, linguaggio, dato e informazione.			
Conosco la definizione di sistema, modello, processo e processore.			
Conosco la macchina di Turing.			
Conosco il significato di paradigma di programmazione.			
So fornire esempi di paradigmi.			
Conosco la tesi di Church-Turing.			

Esprimi le tue considerazioni:

- Quali sono i tuoi punti di forza?
- Quali sono le tue principali difficoltà?