JPMC - EIS Code Academy

Class 1

COURSE INTRO

Let’s introduce ourselves and the structure of the course

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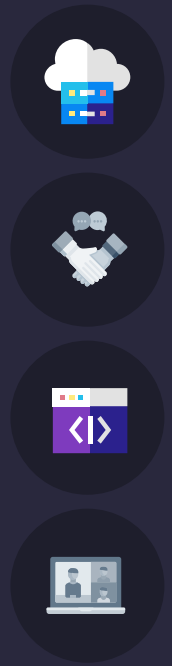
/COURSE OBJECTIVE

/Basic Concepts

Explain basic development concepts

/Practice

Complete an individual E2E project



/Mentorship

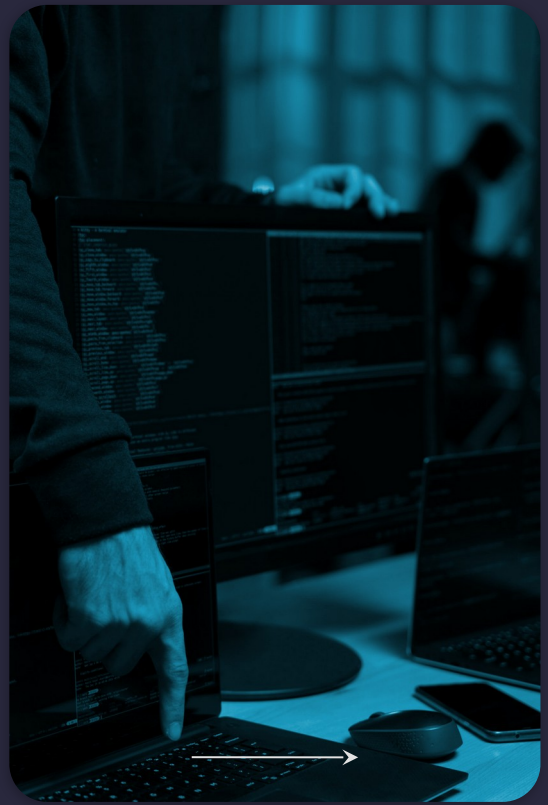
Someone to clear doubts and guide you

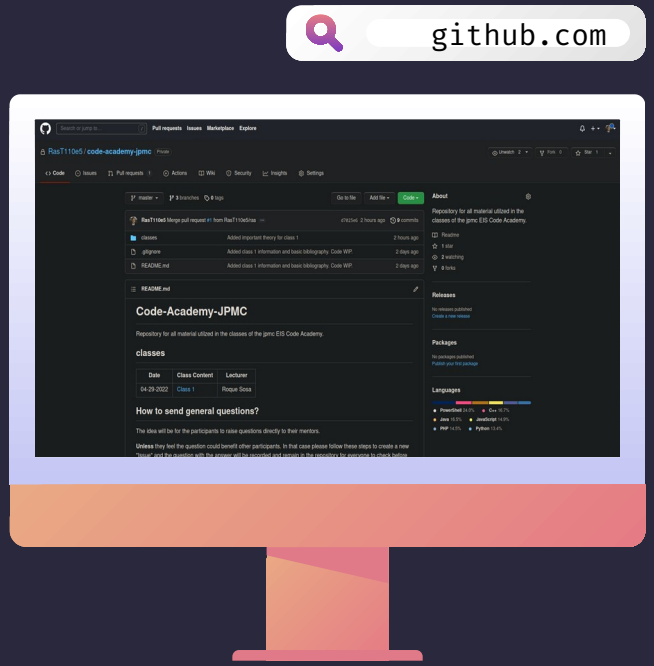
/Peer Coding

Shadow your mentor during development

/MENTORS

- Who are they?
- What are their roles?
- Who is assigned to each mentor?





/Content Repository

This repository will be used to store any material we use during our classes

WHAT IS CODING

Let’s start with defining some key terms and tools

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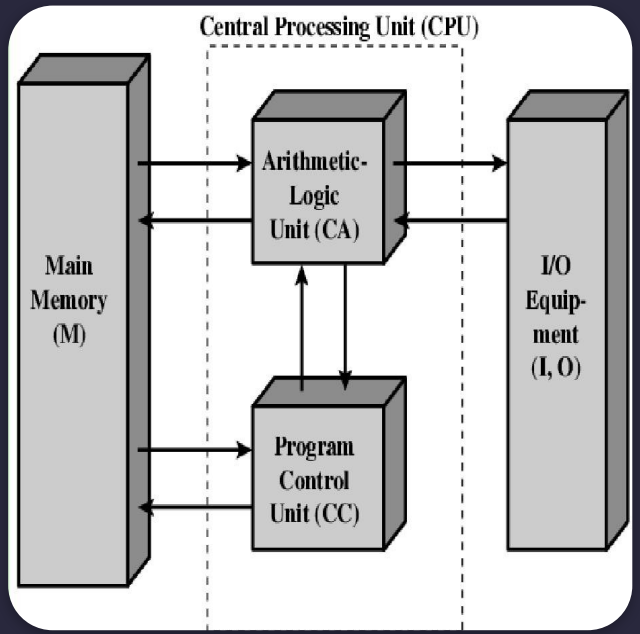
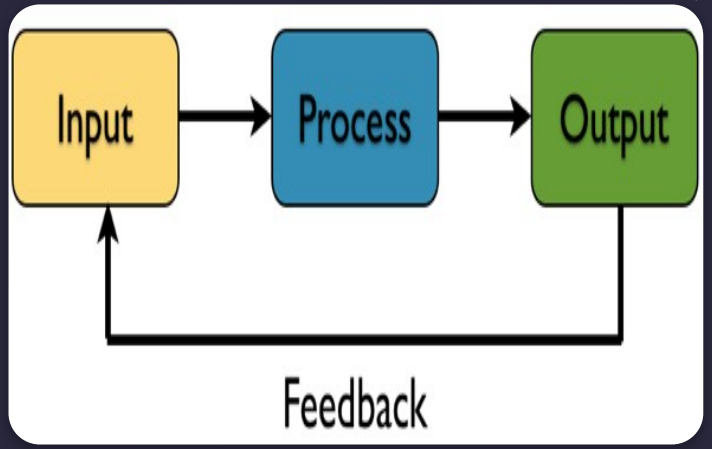
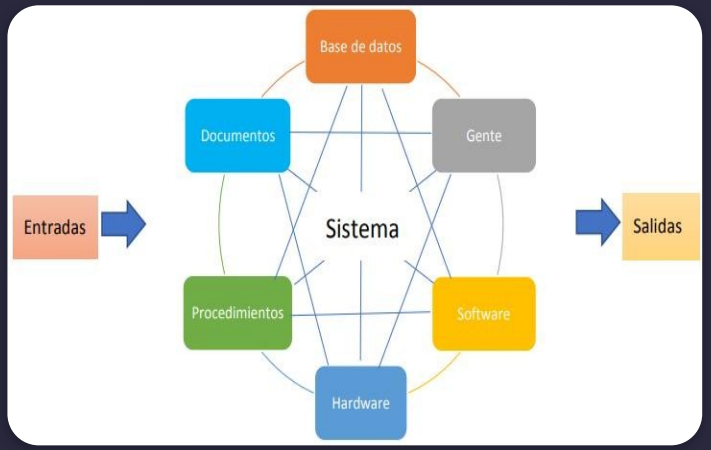


"An electronic digital **programmable** machine made to automatically process information. Capable of receiving, operating over and providing the results of such operations"

—WILLIAM STALLINGS

/System and Software





"Organized **Components** to fulfill a function or set of functions"

—IEEE 610.12-1990

/CODING VS PROGRAMMING

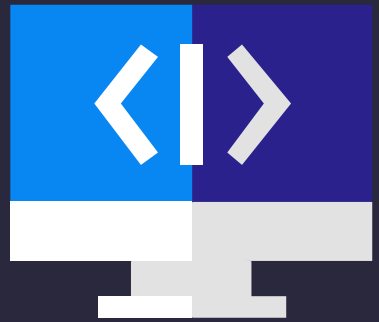
/Coding

Coding is the ability to write instructions from one language to another

/Programming

Programming is the ability to process, interpret and assemble a set of instructions to machine executable instructions

“The ability to give instructions to a computer”

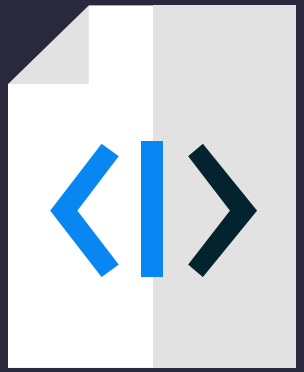


/Basics

- Computers are dumb
- Programming Languages are dumb

"Go into the shed, grab the shovel and come back"

“A Programming Language is a **language** that is used to write instructions for a computer in a way that it can still be shared and understood by a human.”



/BASICS OF MOST PROGRAMMING LANGUAGES

/Sequence

Arrangement of 2 blocks in time, the exit of the first block feeds the entry of the second.

/Selection

Boolean expression statements to select the continuation of the flow.

/Iteration

Repeated execution of a set of statements until boolean expression is no longer true.

/PRACTICAL EXAMPLE

Sam is a professor at the university and likes to round each student's according to these rules:

- If the difference between the grade and the next multiple of 5 is less than 3, round up to the next multiple of 5.
- If the value of grade is less than 38, no rounding occurs as the result will still be a failing grade.

/Possible Solution

```
7   print("++ Grade Rounder ++")
8   promptMessage = "Enter grade or grades (45 | 40,90,100), exit with -1: "
9   grades = input(promptMessage)
10  while grades != "-1":
11      numericGrades = list(map(int, grades.split(",")))
12      for grade in numericGrades:
13          if grade < 38 or grade % 5 == 0:
14              print("Grade %s not rounded. => %s" % (grade, grade))
15          else:
16              nextMultipleOf5 = grade
17              while nextMultipleOf5 % 5 != 0:
18                  nextMultipleOf5 += 1
19              diff = nextMultipleOf5 - grade
20              if diff < 3:
21                  print("Grade %s rounded. => %s" % (grade, nextMultipleOf5))
22              else:
23                  print("Grade %s not rounded. => %s" % (grade, grade))
24      grades = input(promptMessage)
```

/Possible Solution

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22              else:
23                  print("Grade %s not rounded. => %s" % (grade, grade))
24      grades = input(promptMessage)
```

/FEATURES OF THE TOPIC

/PRACTICE

Coding is a creative process it comes with practice

/LANGUAGES

1 Enterprise
1 Scripting

/IGNORE SMALL DETAILS

Don’t get distracted by minor details

/READ

There couldn’t possibly more documentation

/LEARNING CURVE