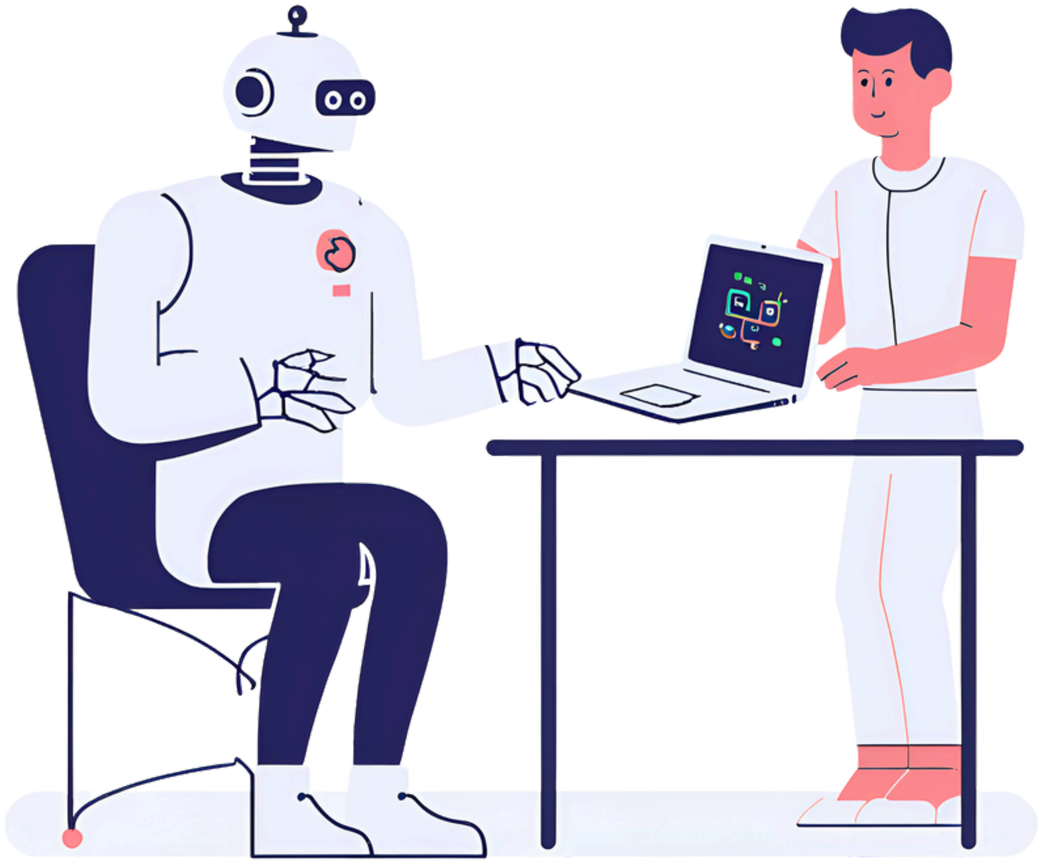
AISCIENCES
WHERE LEARNING BEGINS



PYTHON with CHAT-GPT

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WWW.AISCIENCES.IO

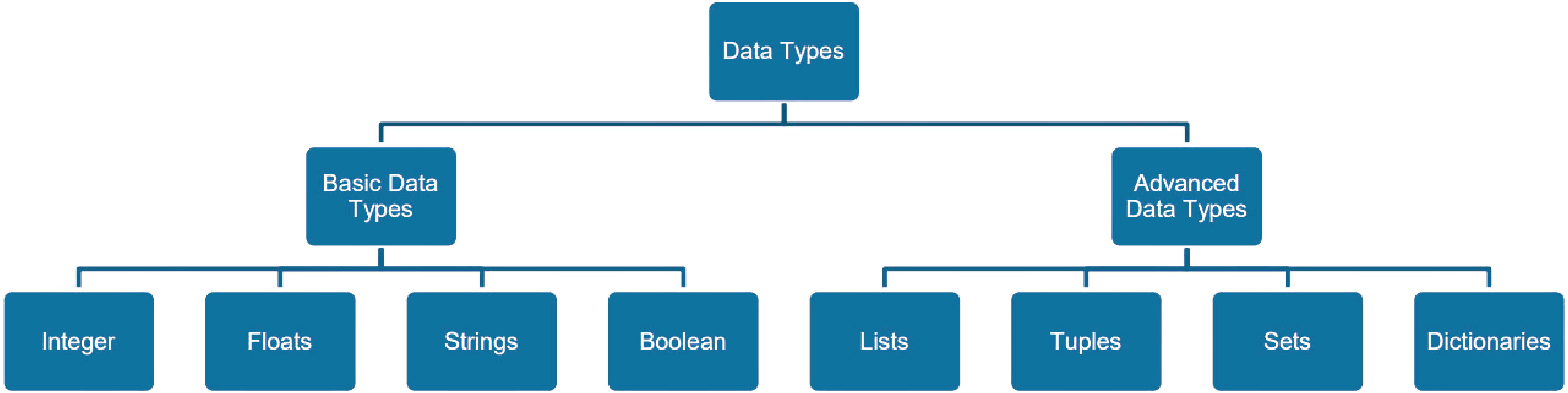
PYTHON BASICS

VARIABLES AND DATATYPES

INSTALLATIONS

VARIABLES

DATA TYPES



Data Types

Basic Data Types

Advanced Data Types

Integer

Floats

Strings

Boolean

Lists

Tuples

Sets

Dictionaries

DATA TYPES

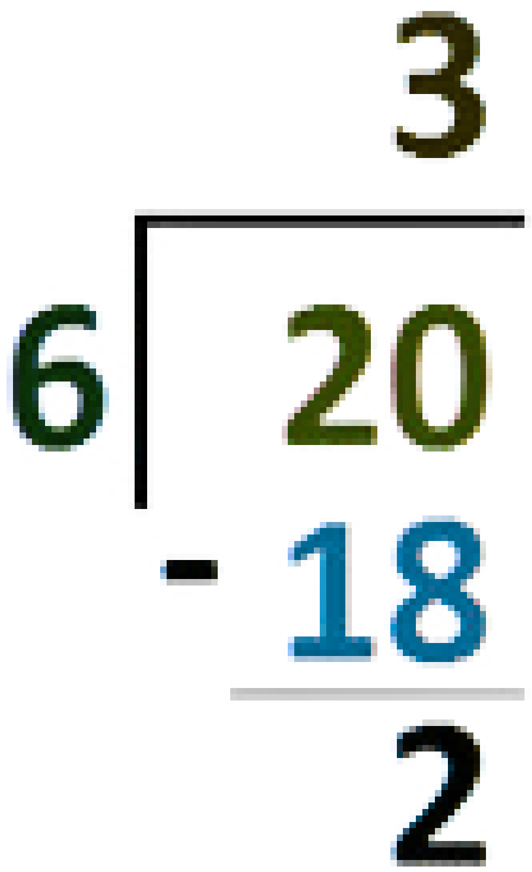
Integers - 2

Floats – 2.5

Boolean – True

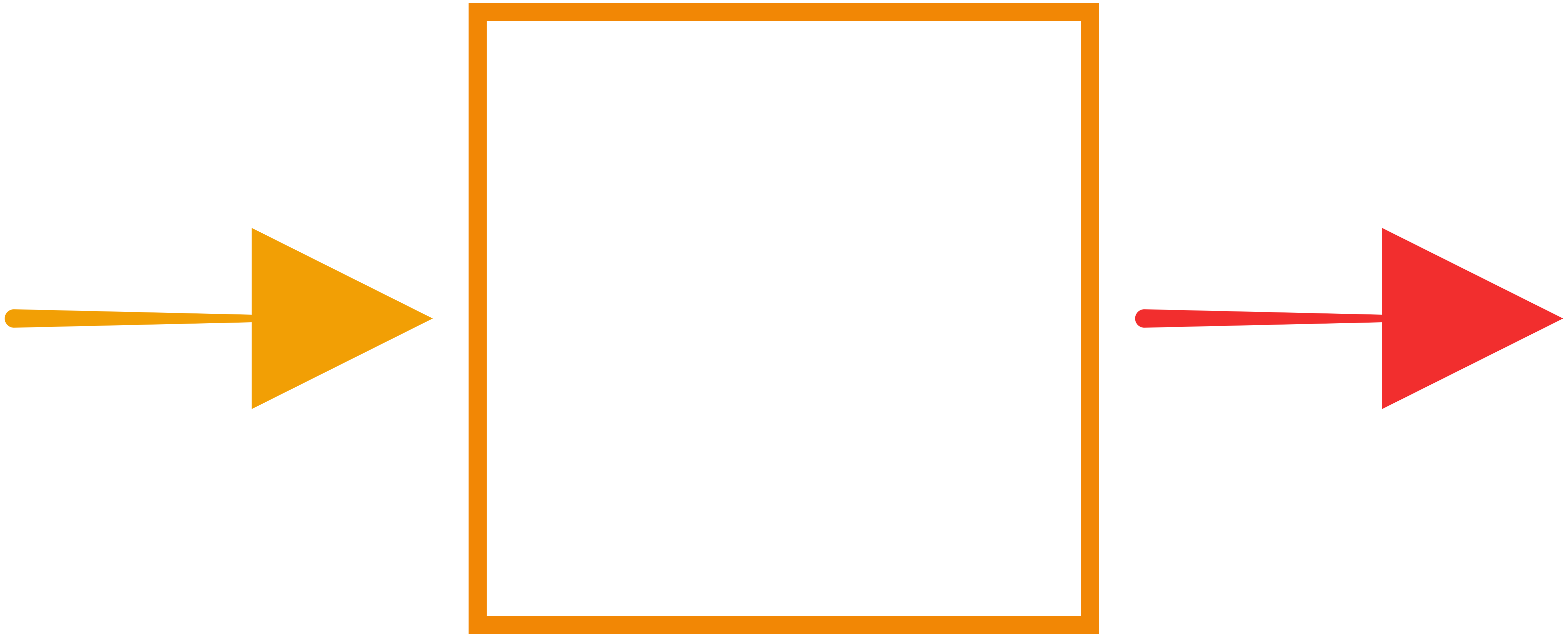
Strings – “Hello World”

DATA TYPES

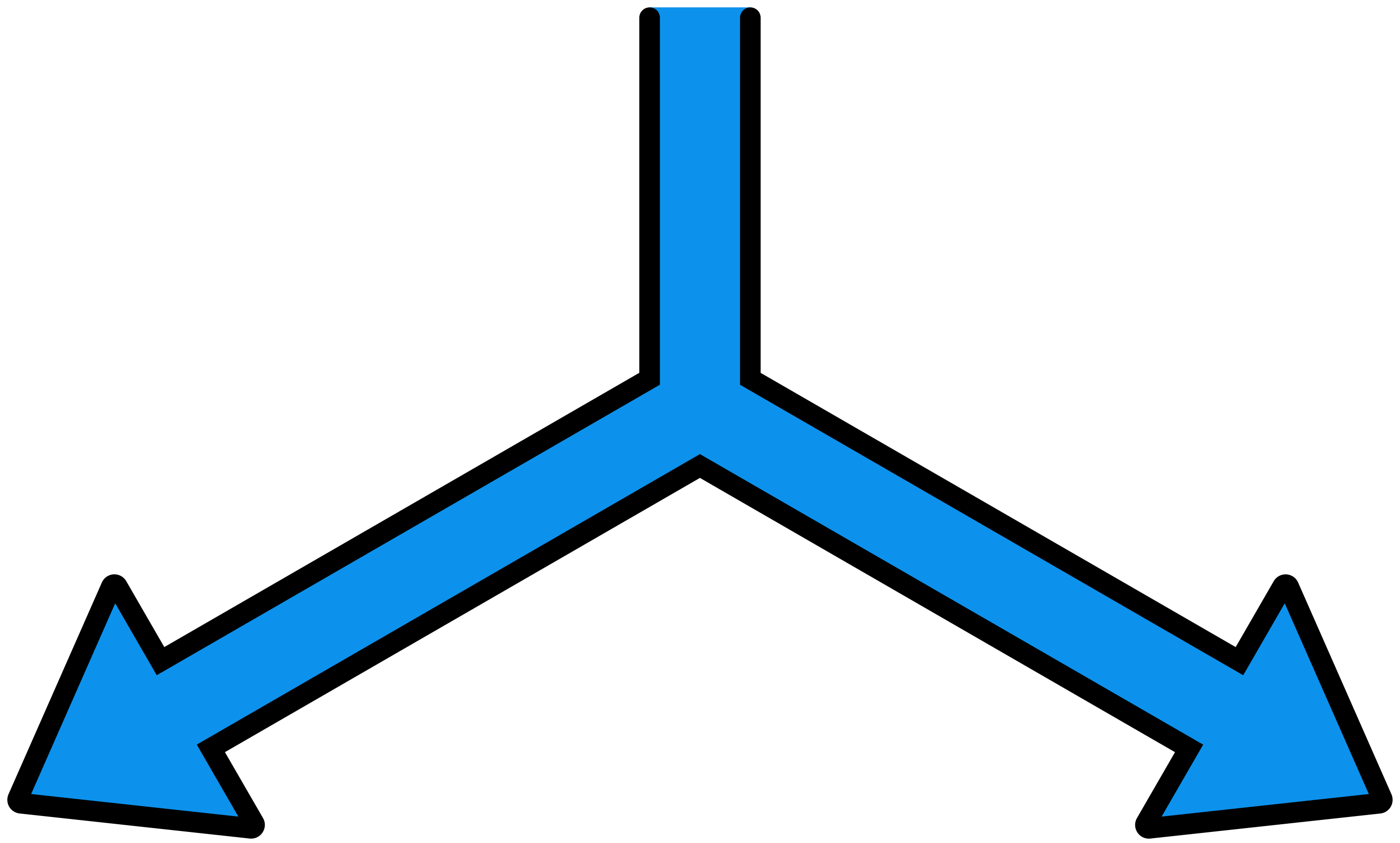


Remainder

INPUT/OUTPUT



PYTHON OPERATORS



Comparison Operators

Logical Operators

ASSIGNMENT

Enter a First Number:7

Enter a Second Number:4

The **Sum** of First Number and Second Number is: 11

The **Difference** of First Number and Second Number is: 3

The **Product** of First Number and Second Number is: 28

The **Quotient** of First Number and Second Number is: 1.75

The **Modulos** of First Number and Second Number is: 3

The **Exponent** of First Number and Second Number is: 2401

CONTROL FLOW

IF ELSE

CONTROL FLOW

Grading policy

Take input in variable **marks**

more than 80 marks --> Outstanding

more than 60 marks --> Good

more than 40 marks --> Need Improvement

Less than 40 marks --> Failed

CONTROL FLOW

$$\begin{array}{rr} & 3 \\ 6 \big) & \overline{\;20} \\ & \underline{-\,18} \\ & 2 \end{array}$$

AND

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

$Y = A \cdot B$

OR

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

$Y = A + B$

LOOPS

```
# input from user for table: 4
# Print the table from 1 to 10
# 4 multipy 1 is 4
# 4 multipy 2 is 8
# 4 multipy 3 is 12
.
.
.
# 4 multipy 10 is 40
```

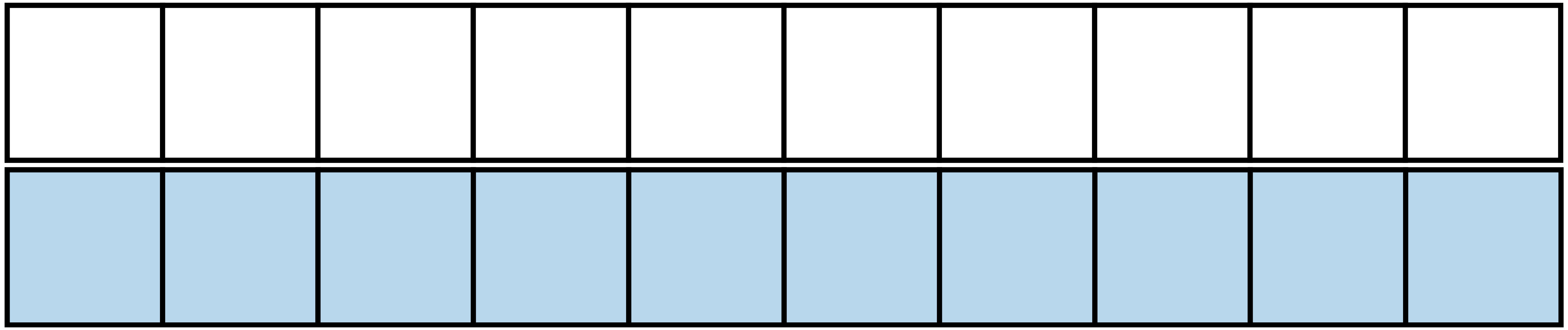
MINI PROJECT

```
# Guess the number
orignal_number = 45
# take input from user
# print if entered number is greater or smaller or EQUAL
                                          to the original_number
# if entered number is not same, then again ask for number
# if entered number is same, the user wins
# User can only guess a number for 10 times
# Also print every time that how many tries are left
```

DATA STRUCTURES

STRING

INDEX



INDEX

Count how many characters ‘e’ are there in the following string:

“Every morning brings new opportunities.”

DATA STRUCTURES

- Lists
- Tuples
- Sets

- Dictionary

LIST

Filter the list and show all Even and Odd number along with the labels:

List: [1,2,3,4,5,6,7,8,9,10]

Output:

1: Odd

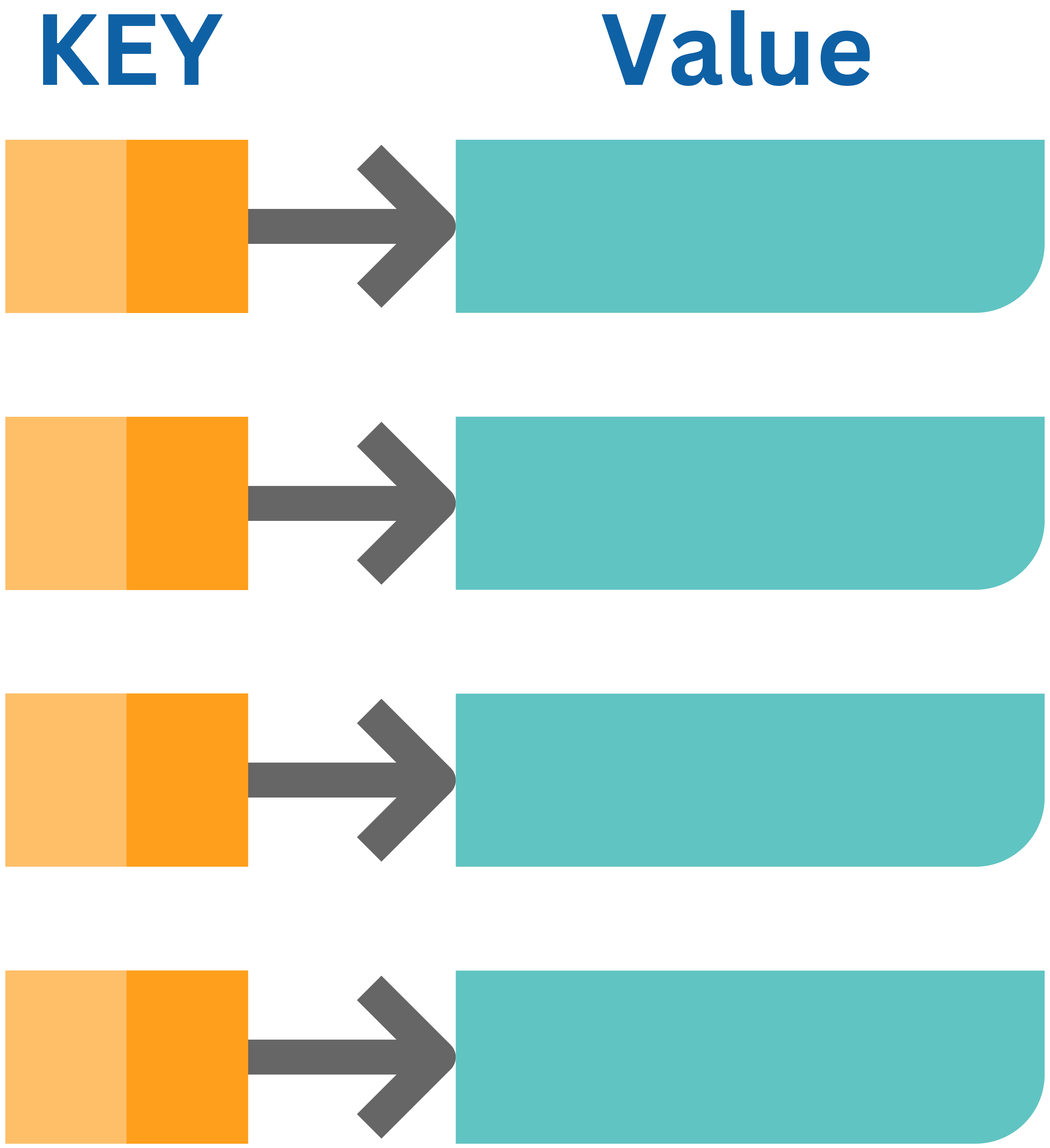
2: Even

3: Odd

......

LIST, TUPLE, SET

DICTIONARY



KEY

Value

MINI PROJECT

Create a Student Registration System:

- Ask user about how many students should be enrolled.
- Take input from user for each student in ID, Name, Age and Marks (3 subjects).
- Input for marks should be stored in a list.
- Input for each student should be stored in a dictionary.
- Data for all the students should be in the form of list of dictionaries.
- Finally, show data for all the students.

FUNCTIONS

BUILT-IN FUNCTIONS

MINI PROJECT

Calculator

- Take 2 inputs from the user.
- Ask user about which arithmetic operation they want to perform: **+, -, *, /, %**
- Show a menu to the user like “Press + for addition”, etc
- If user enter “q” then quit the program, otherwise keep taking inputs and showing the results.
- Create separate functions for each arithmetic operation.
- Create separate functions for anything else where needed.

OOP

OBJECT ORIENTED PROGRAMMING

OBJECT ORIENTED PROGRAMMING

- Encapsulation
- Inheritance
- Polymorphism
- Abstraction

OOP

MINI PROJECT

MACHINE LEARNING

DATA ANALYSIS