

# PyCoder

## 1. *Introduction of Python*

- What is programming, what is Python(with features)
- Install python in windows (we will discuss kali linux later)
- Understanding shell window
- Creating first program in python.

## 2. *Dawn with basic*

- Data(variable)
  - numeric
    - ▲ int
    - ▲ float
    - ▲ complex
  - boolean
    - ▲ true
    - ▲ false
  - collection
    - ▲ string
    - ▲ list
    - ▲ tuple
    - ▲ set
    - ▲ dict
- comments
- input
- typecast
  - implicit
  - explicit

## 3. *Operations & Operand*

- Arithmetic
- Relational
- logical
- Assignment
- membership, identity
- precedence & associativity

## 4. *Control statements*

- Boolean values
- Decision statements
  - if
  - if else
  - else if ladder
  - nested if else statement
- Iteration statement
  - for loop
  - for each
  - while
  - else clause
- flow control statement
  - break
  - continue
  - return
  - exit
- pass statement

**5. String**

- Types of string
  - single line
  - multi line
- String slicing, indexing
- string format using .format()
- string format using %

**6. functions**

- Defining a function, function header & body
- function call
- return statement
- arguments
  - default
  - keyword
  - arbitrary
- scope of variable
  - local
  - global
- Recursion
  - basecase
  - advantages & disadvantages

**7. modules**

- random, clrprint & pip cmd
- user-define modules
- Module importing ways

**8. Data collection**

- List
- tuple
- set
- dict
- nested data collection

**9. Object oriented in brief**

- Class & object
- constructor & destructor
- inheritance

**10. GUI**

- Turtle
  - Drawing with turtle
- Tkinter
  - layouts
  - widgets
  - event handling

**11. exceptions**

- Types of error
- try except block
- multiple except blocks
- pass statement
- else clause
- finally block